

Fig 1
Prior Art

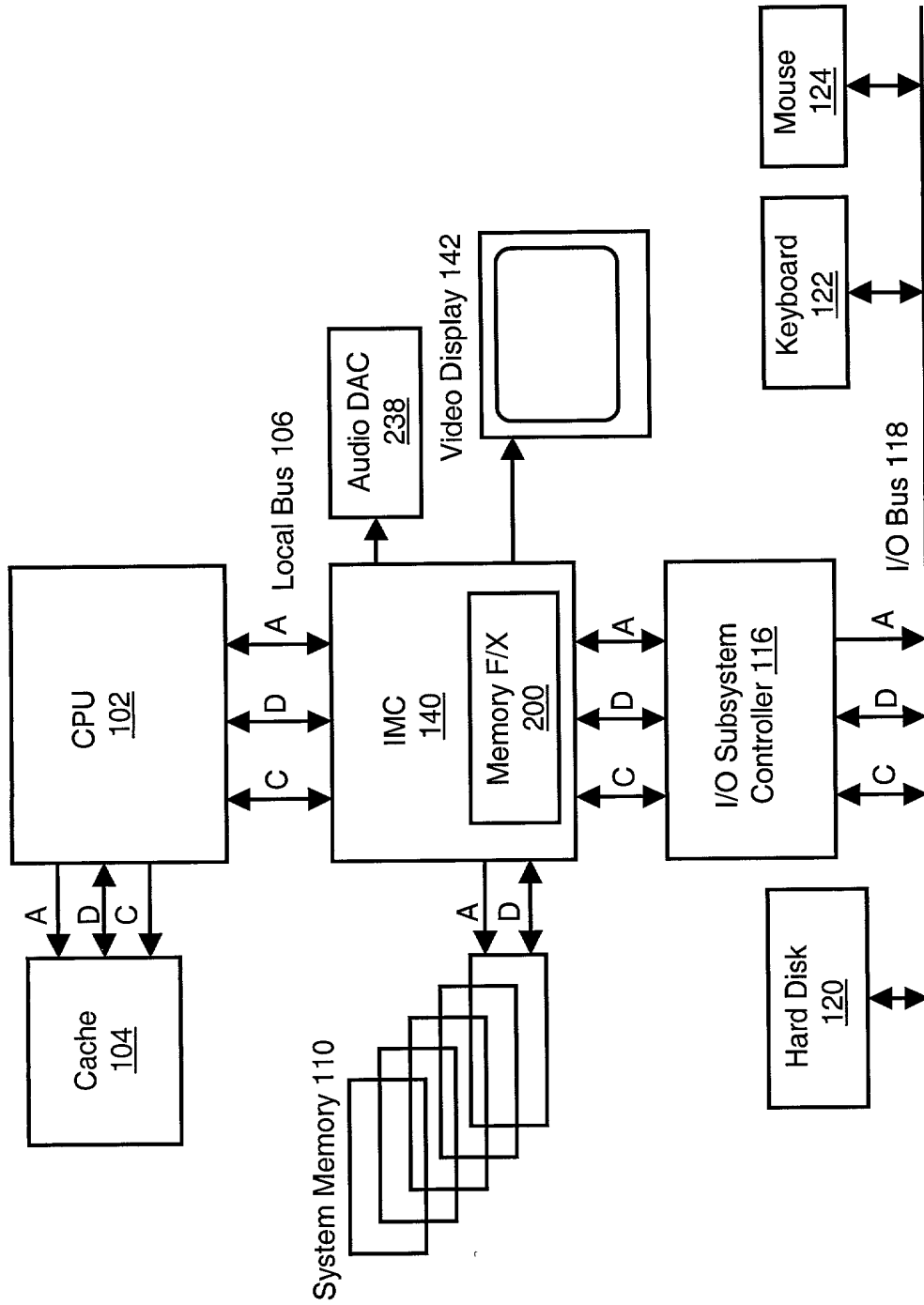


Fig. 2A

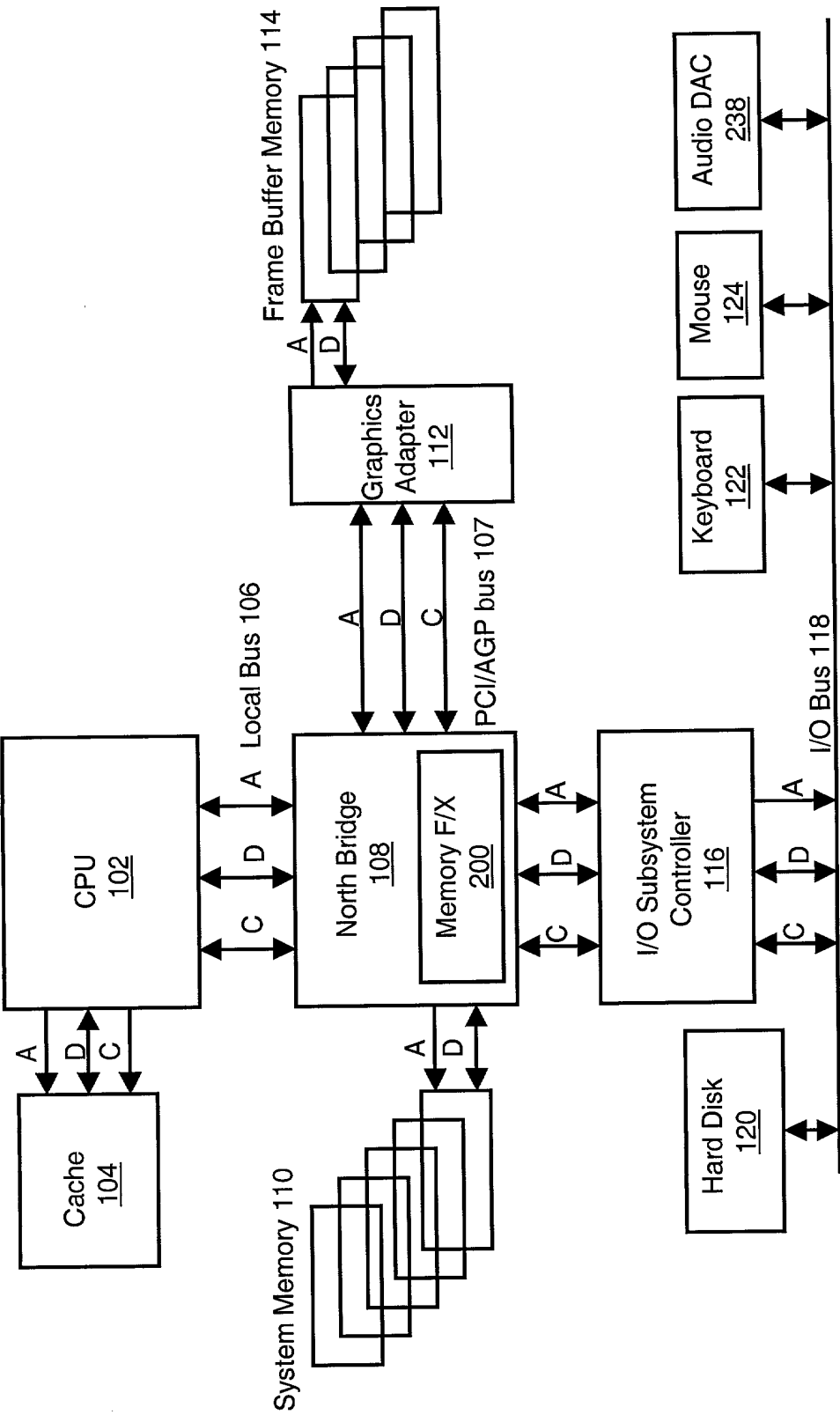


Fig. 2B

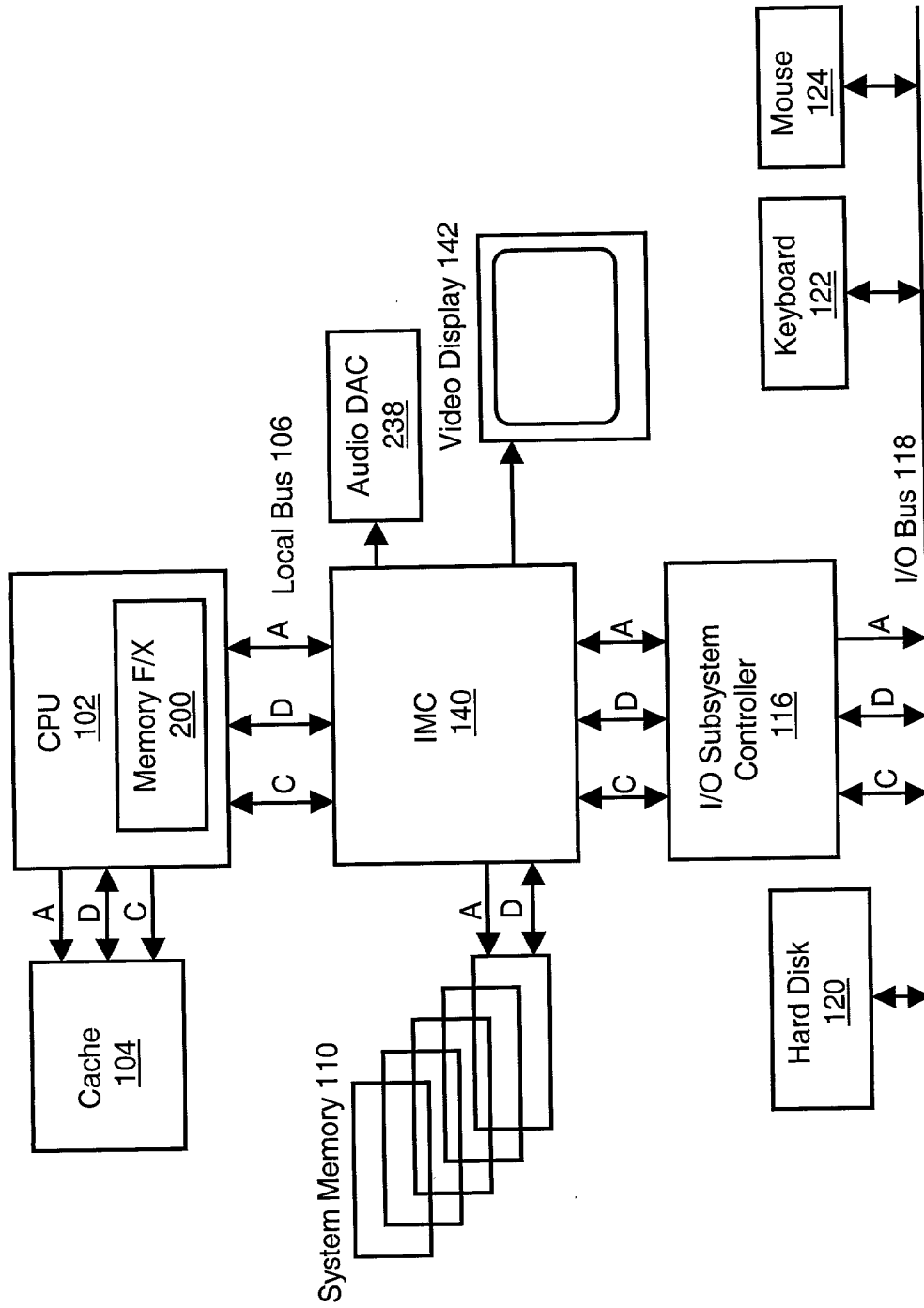


Fig. 2C

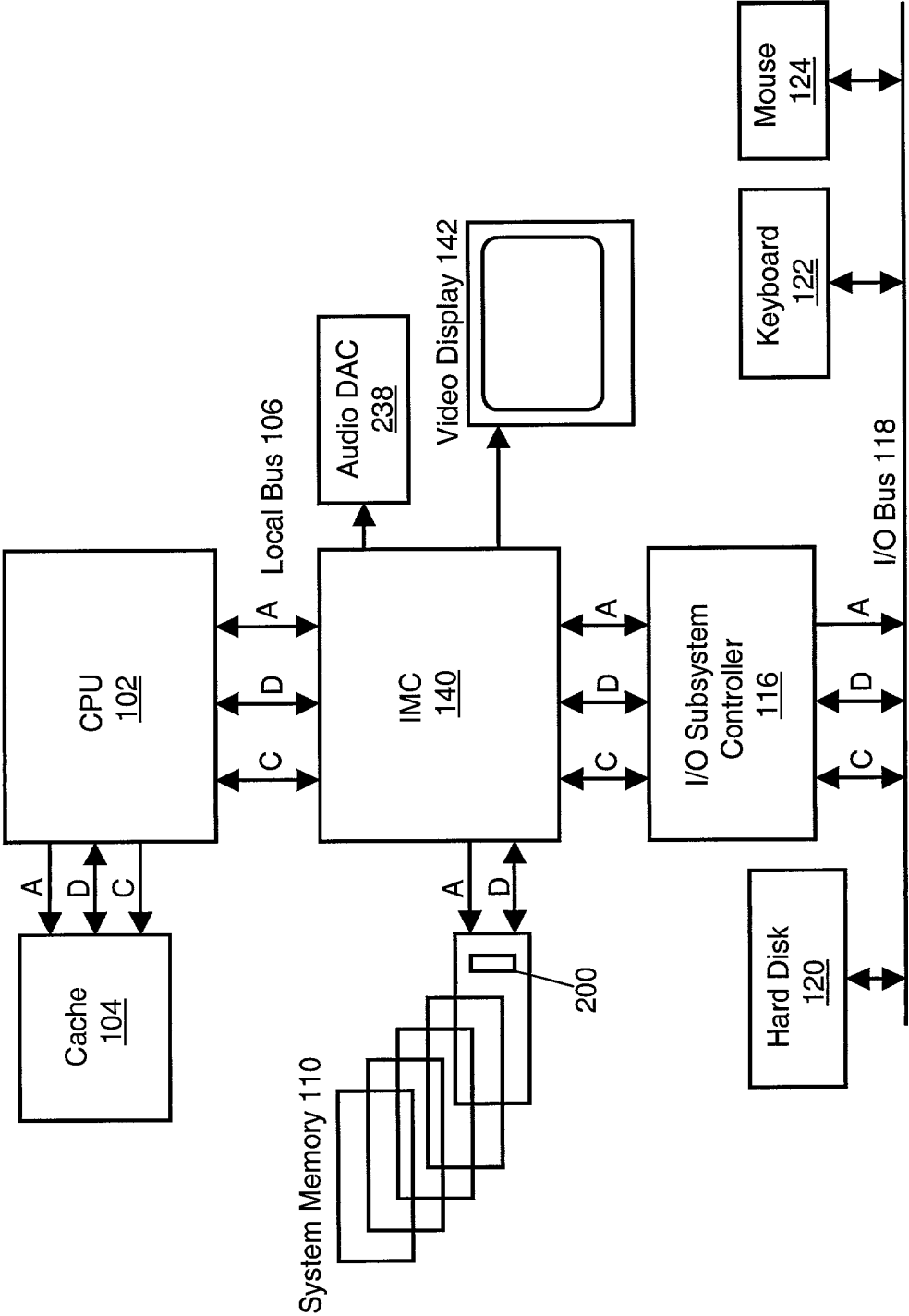


Fig. 2D

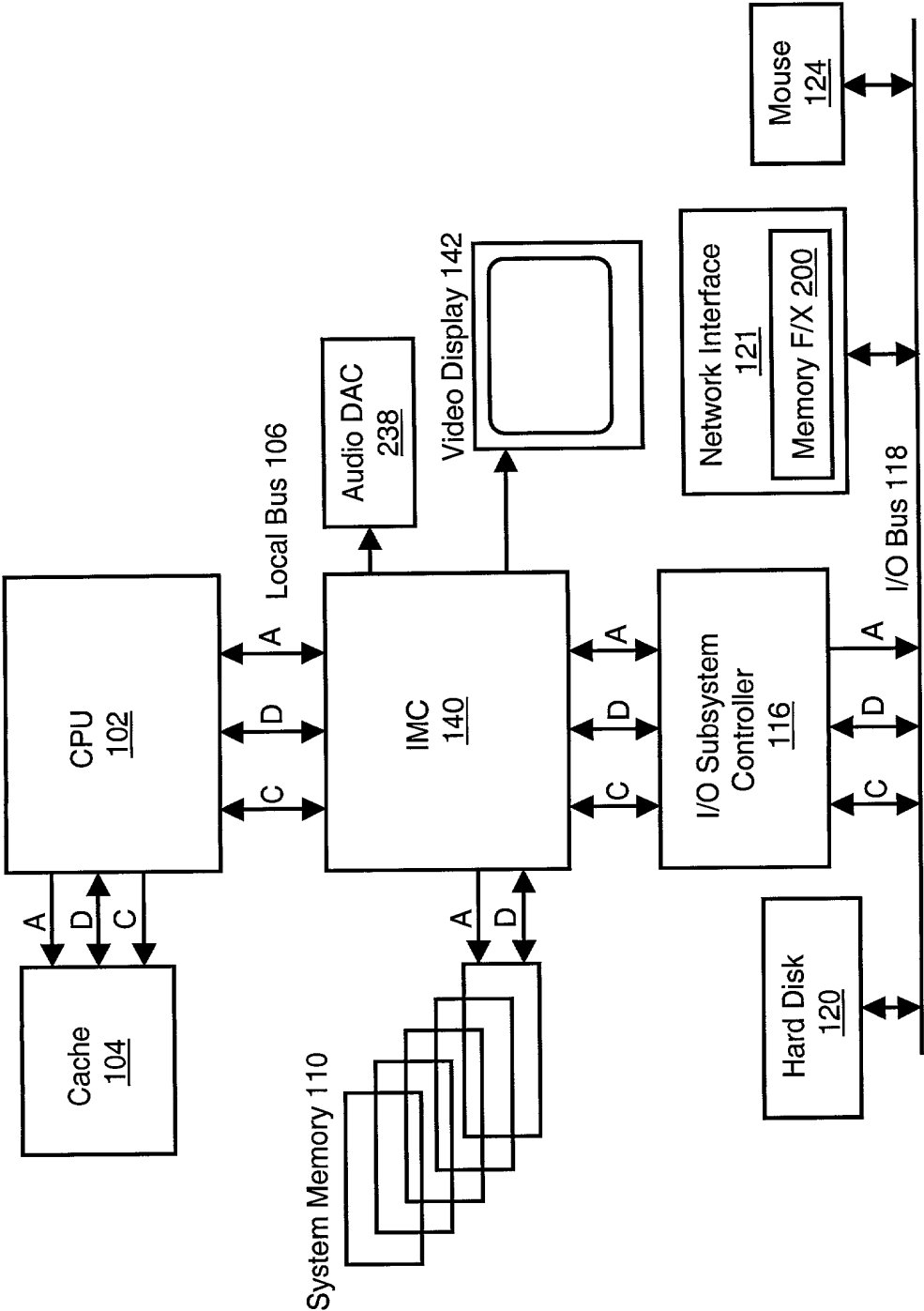


Fig. 2E

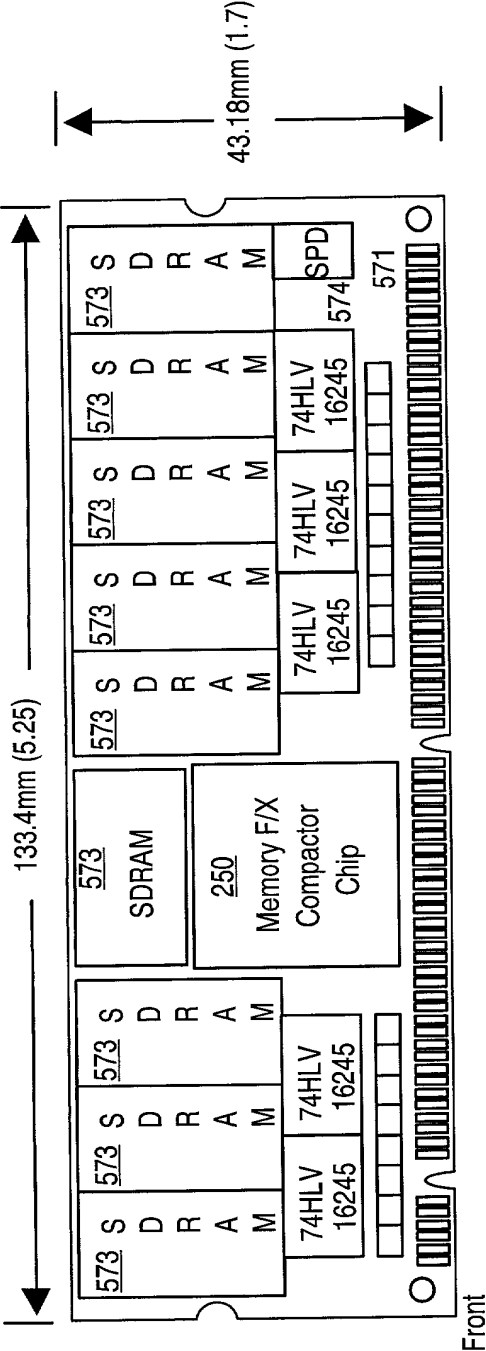


Fig. 3a

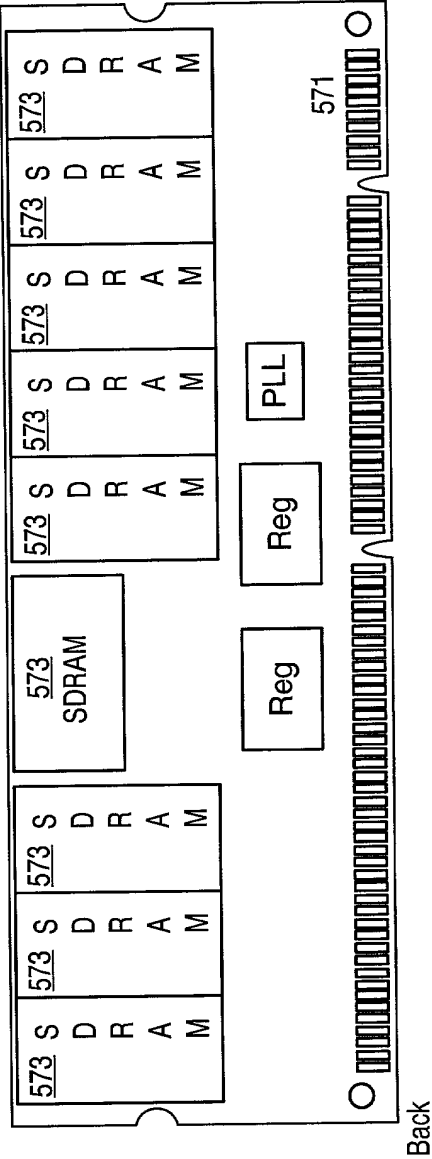
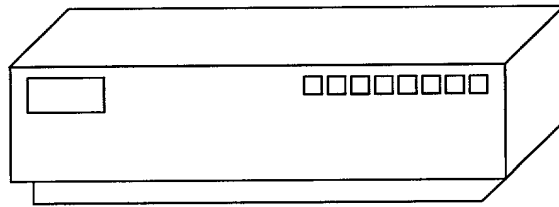


Fig. 3b



Router 130

Fig. 4

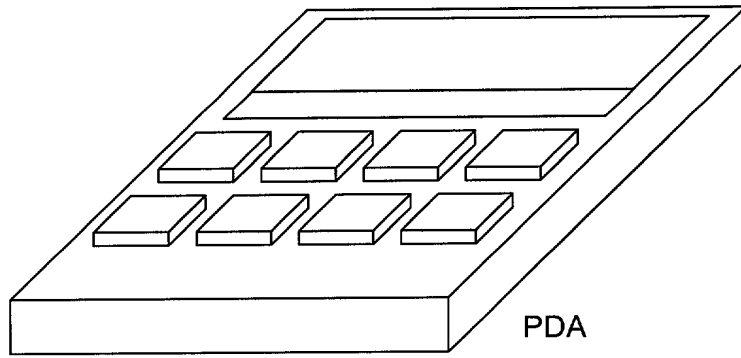


Fig. 5

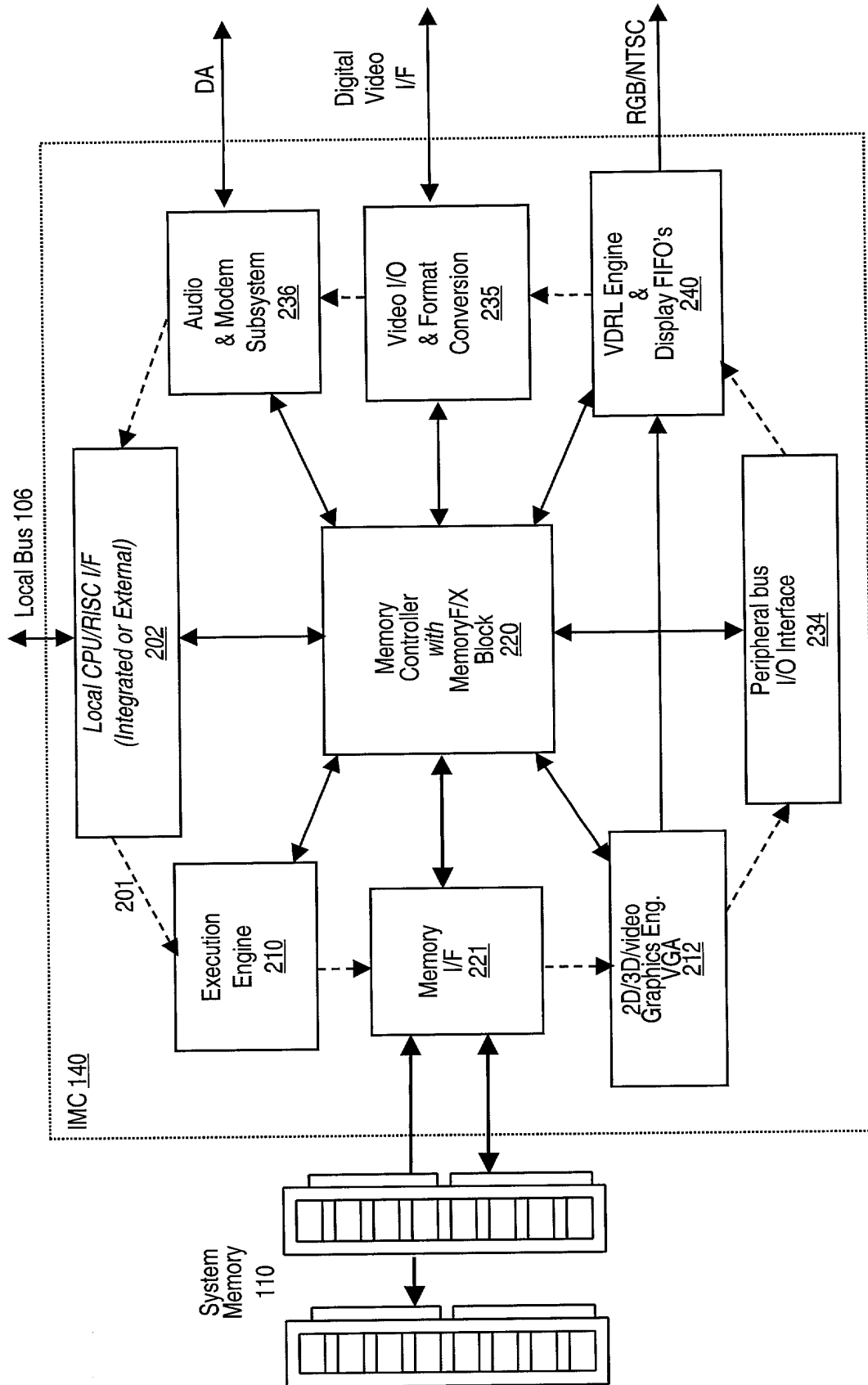


Fig. 6

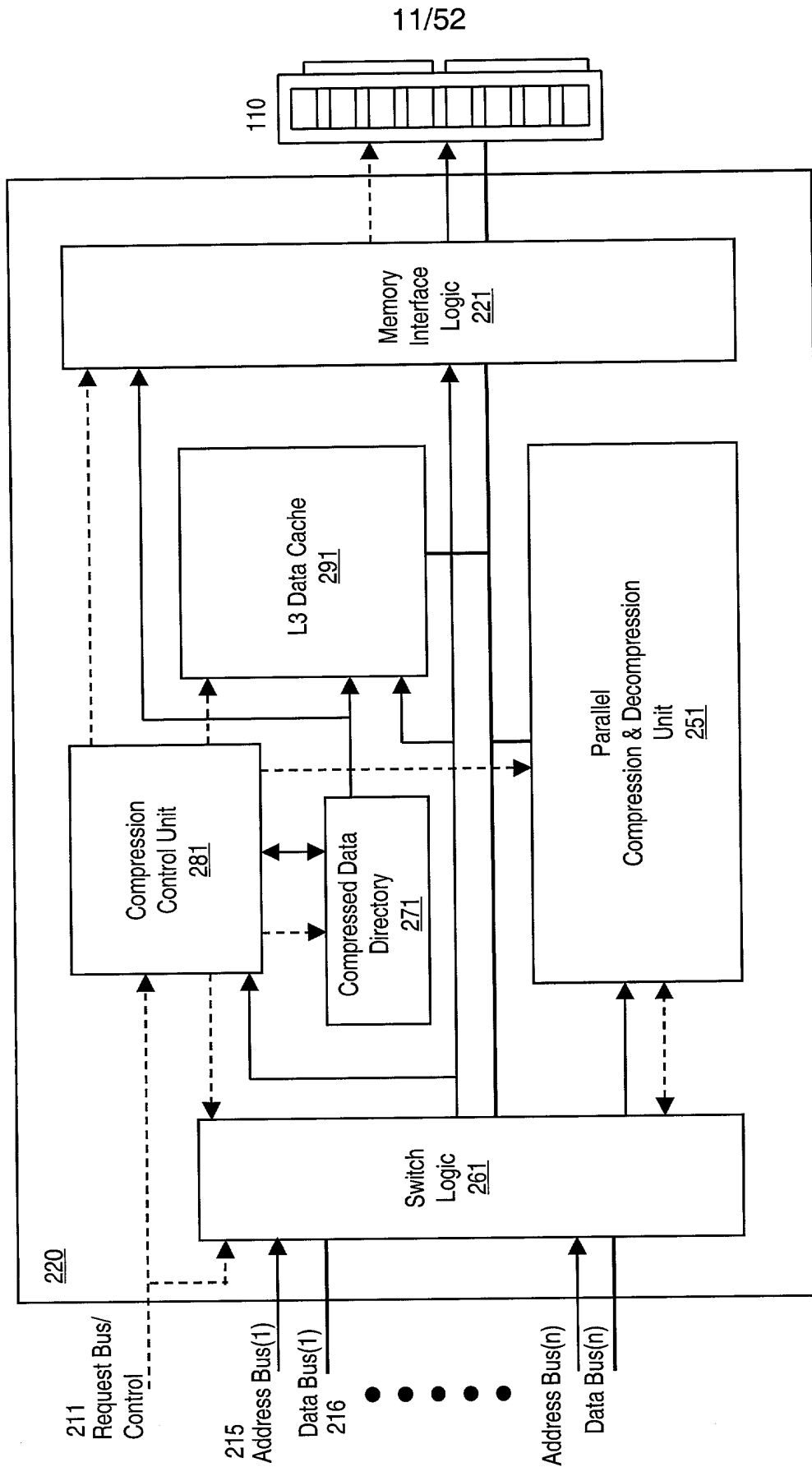


Fig. 7

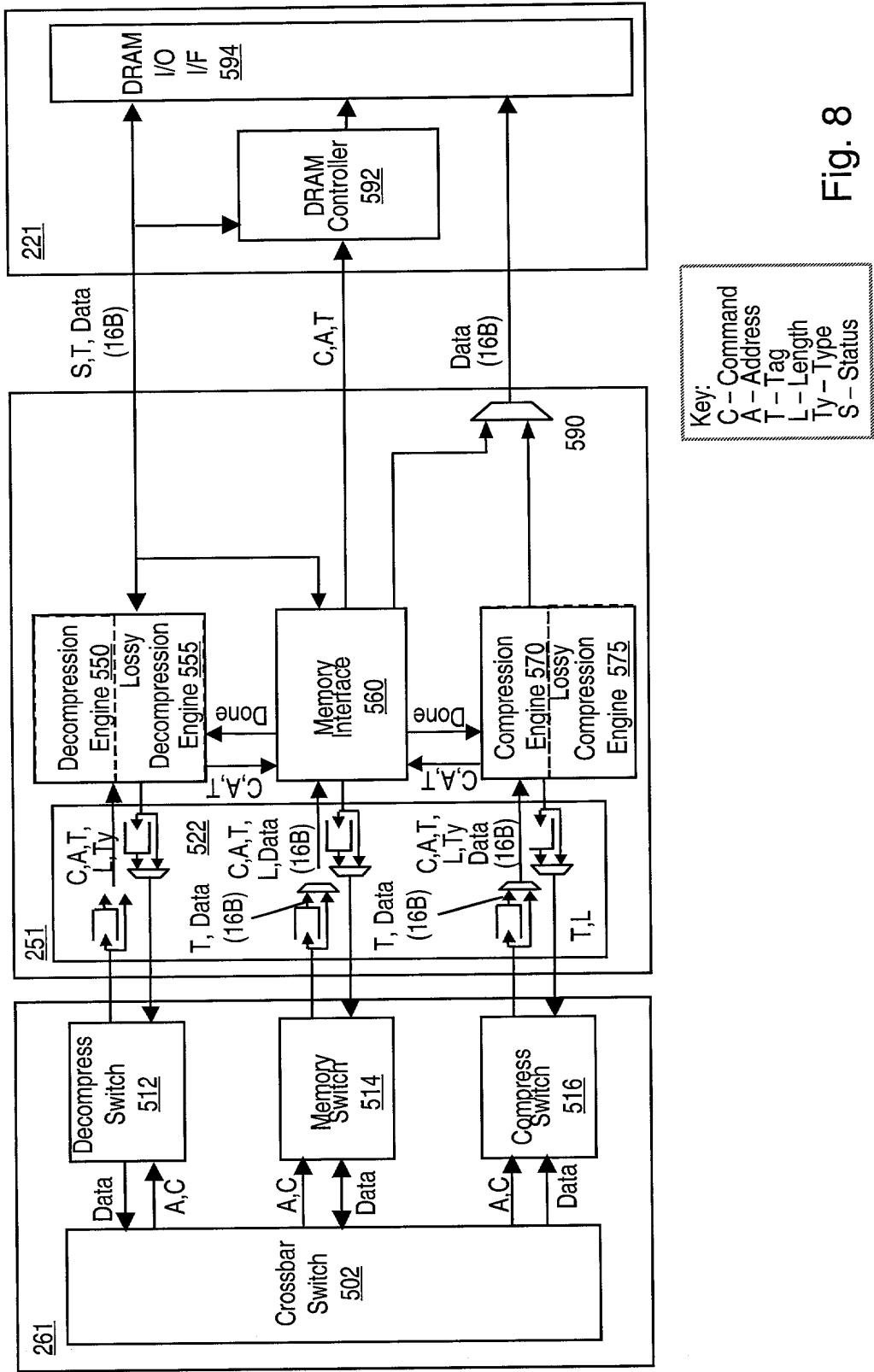


Fig. 8

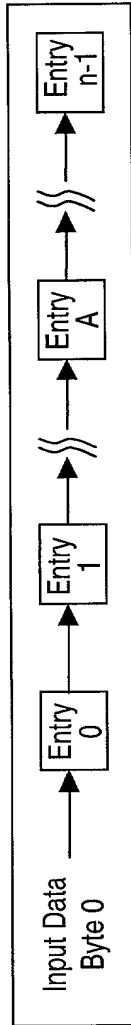


Fig. 9a
(Prior Art)

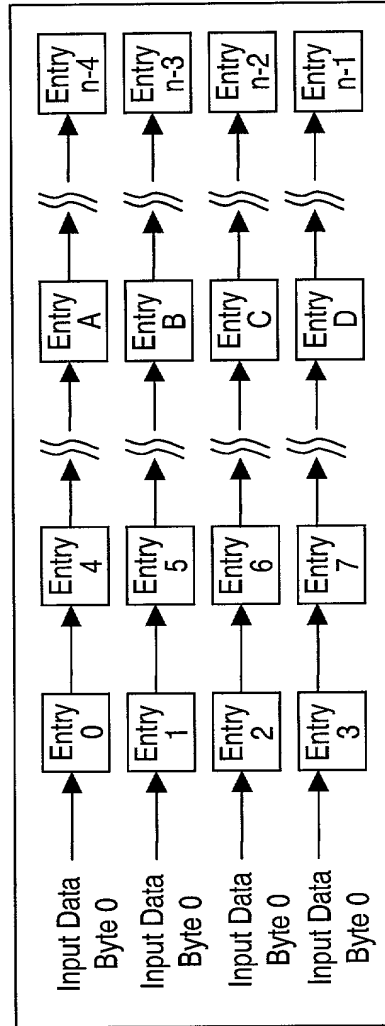


Fig. 9b
(New Art)

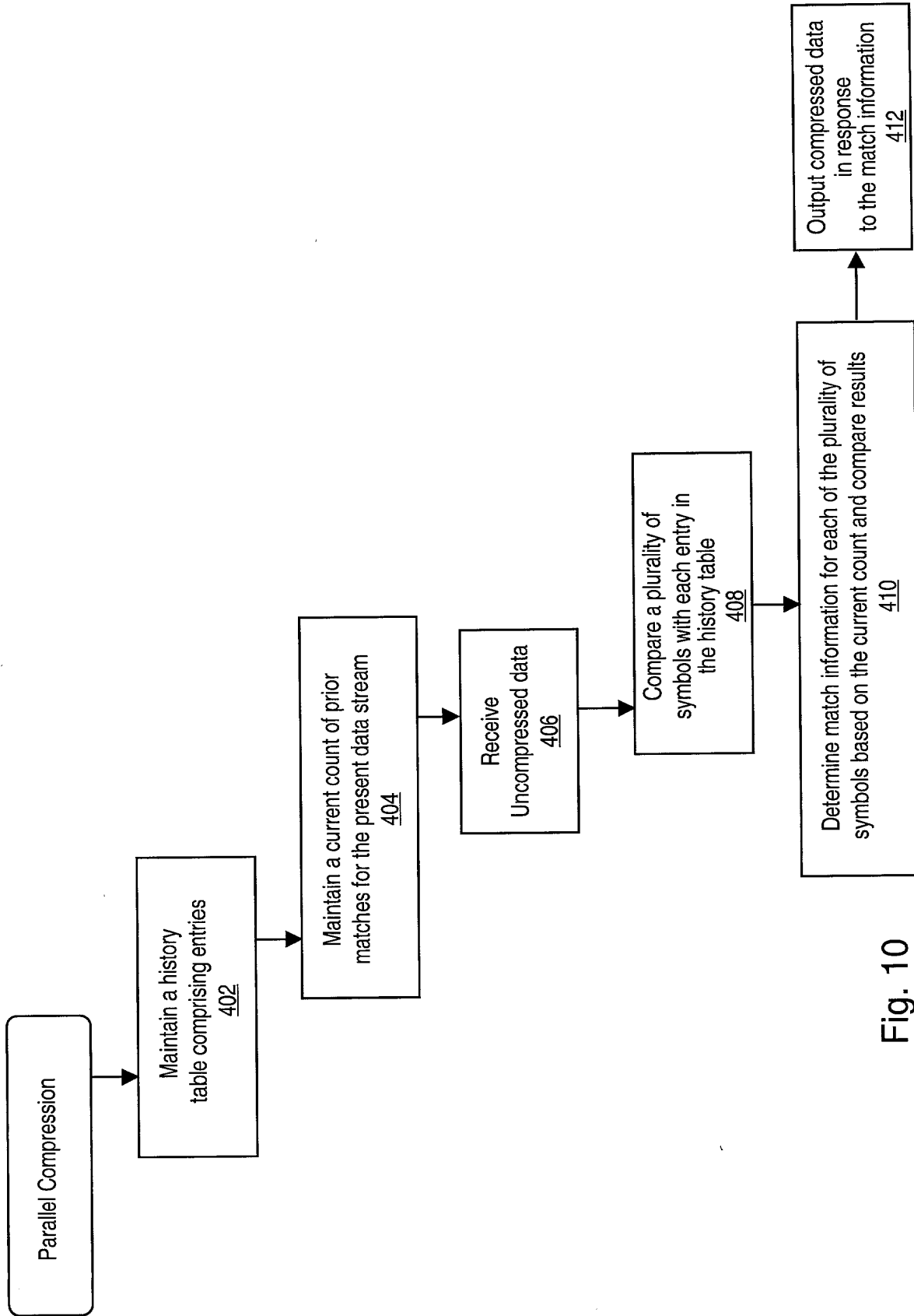


Fig. 10

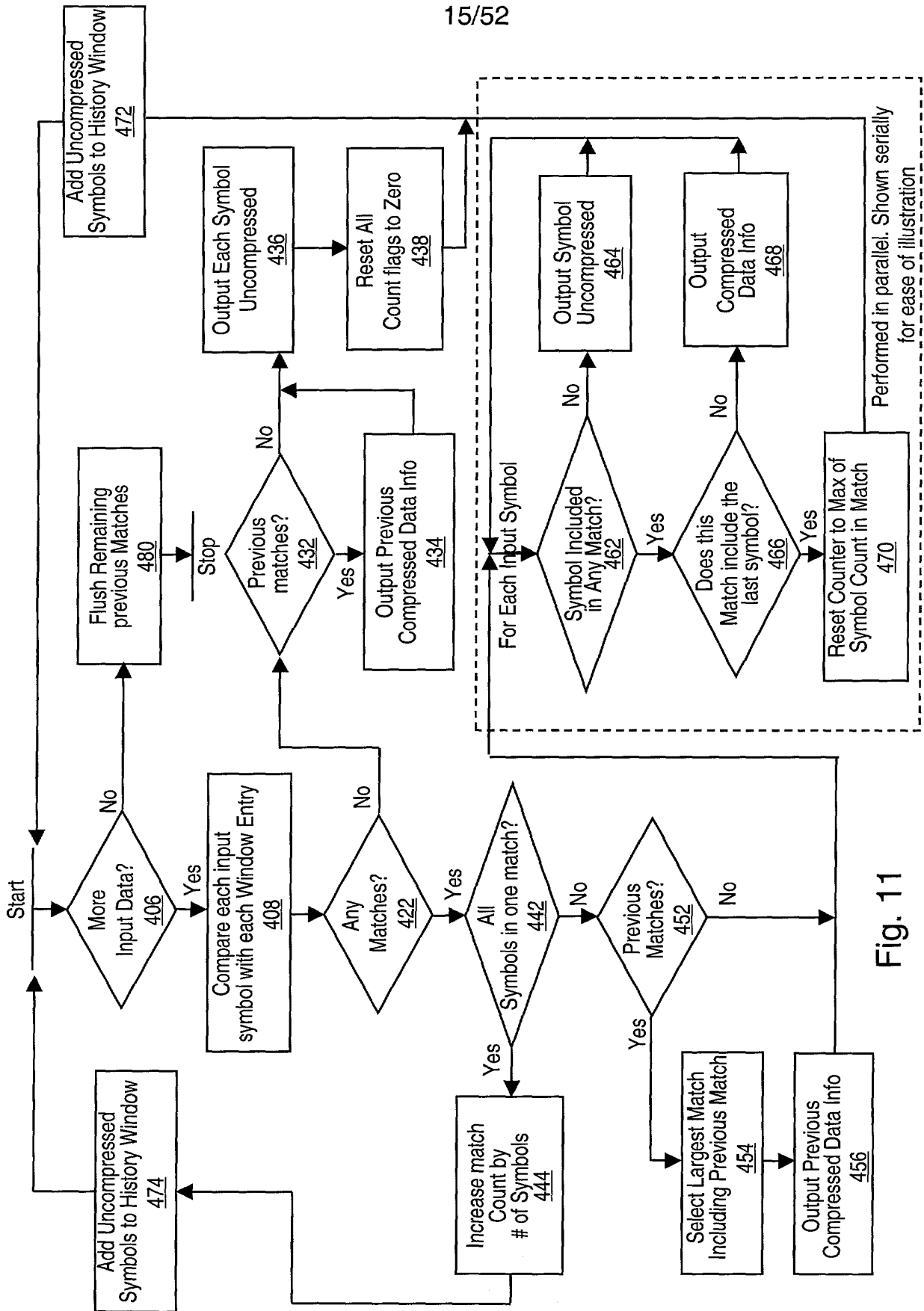


Fig. 11

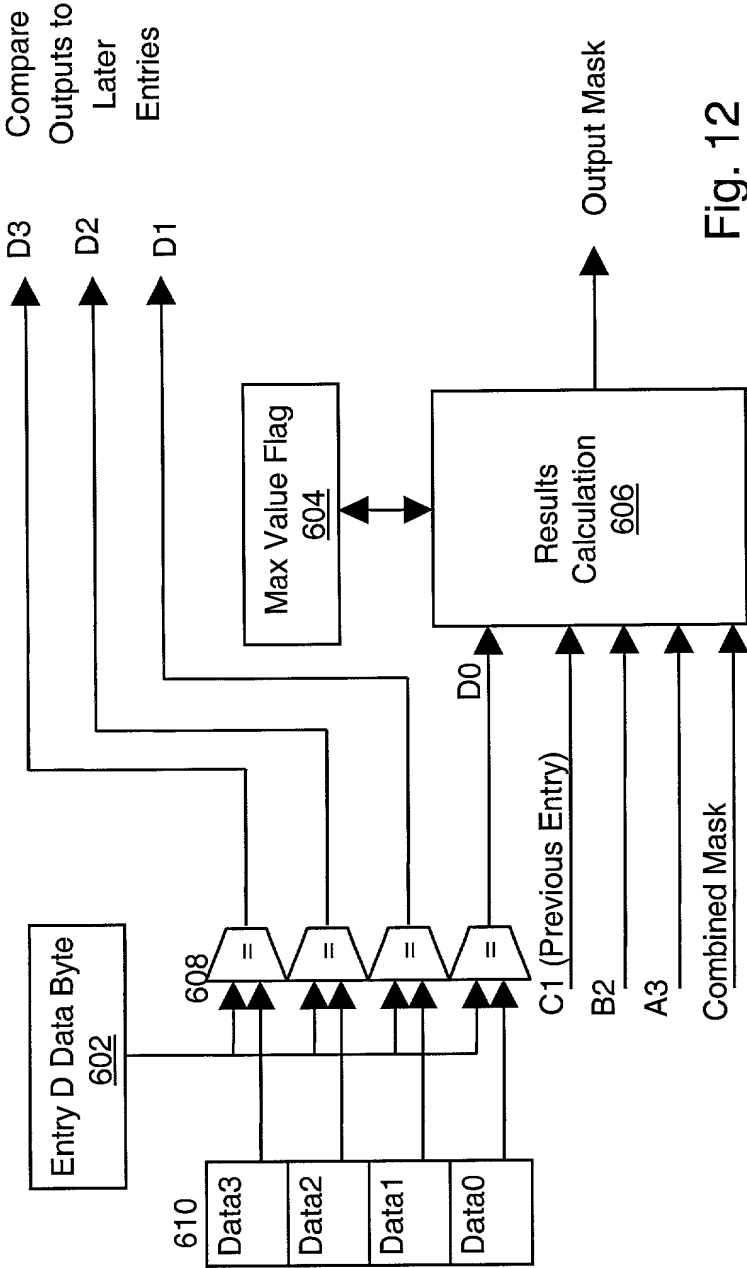


Fig. 12

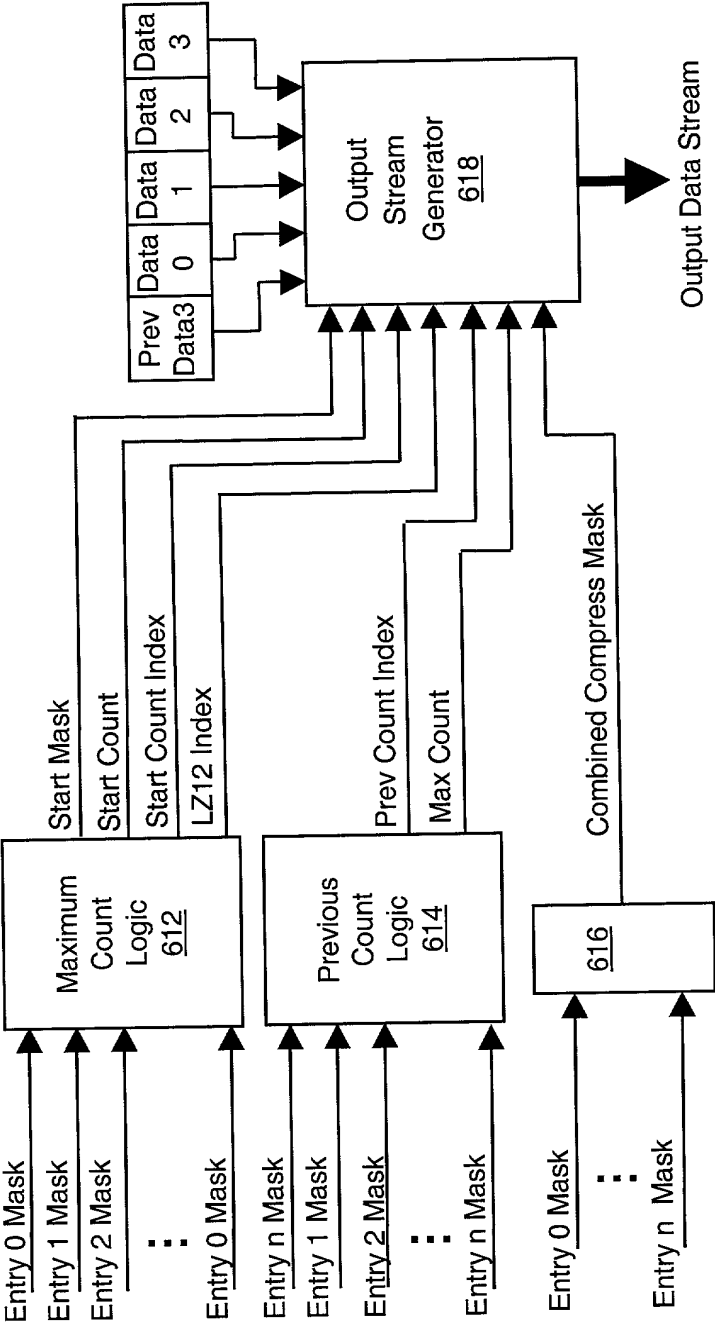


Fig. 13

Combined Mask	Count
0000	0
0001	1
0010	0
0011	2
0100	0
0101	1
0110	0
0111	3
1000	0
1001	1
1010	0
1011	2
1100	0
1101	1
1110	0
1111	Count+4

Figure 14b

D0	Input Matches			Output	
	C1	B2	A3	Mask	
1	1	1	1	1111	
1	1	1	0	1110	
1	1	0	1	1101	
1	1	0	0	1100	
1	0	1	1	1011	
1	0	1	0	1010	
1	0	0	1	1001	
1	0	0	0	1000	
0	1	1	1	0111	
0	1	1	0	0110	
0	1	0	1	0101	
0	1	0	0	0100	
0	0	1	1	0011	
0	0	1	0	0010	
0	0	0	1	0001	
0	0	0	0	0000	

Figure 14a

Output Masks	Com bined Mask
M1234 4321 &~M1	0001
432 & ~M12	0010
43 & ~M123	0100
4 & ~M1234	1000
First valid row determines Combined Mask Output	
M-Max Count Flag 1-1 st Symbol Match 2-2 nd Symbol Match 3-3 rd Symbol Match 4-4 th Symbol Match	

Fig. 14c

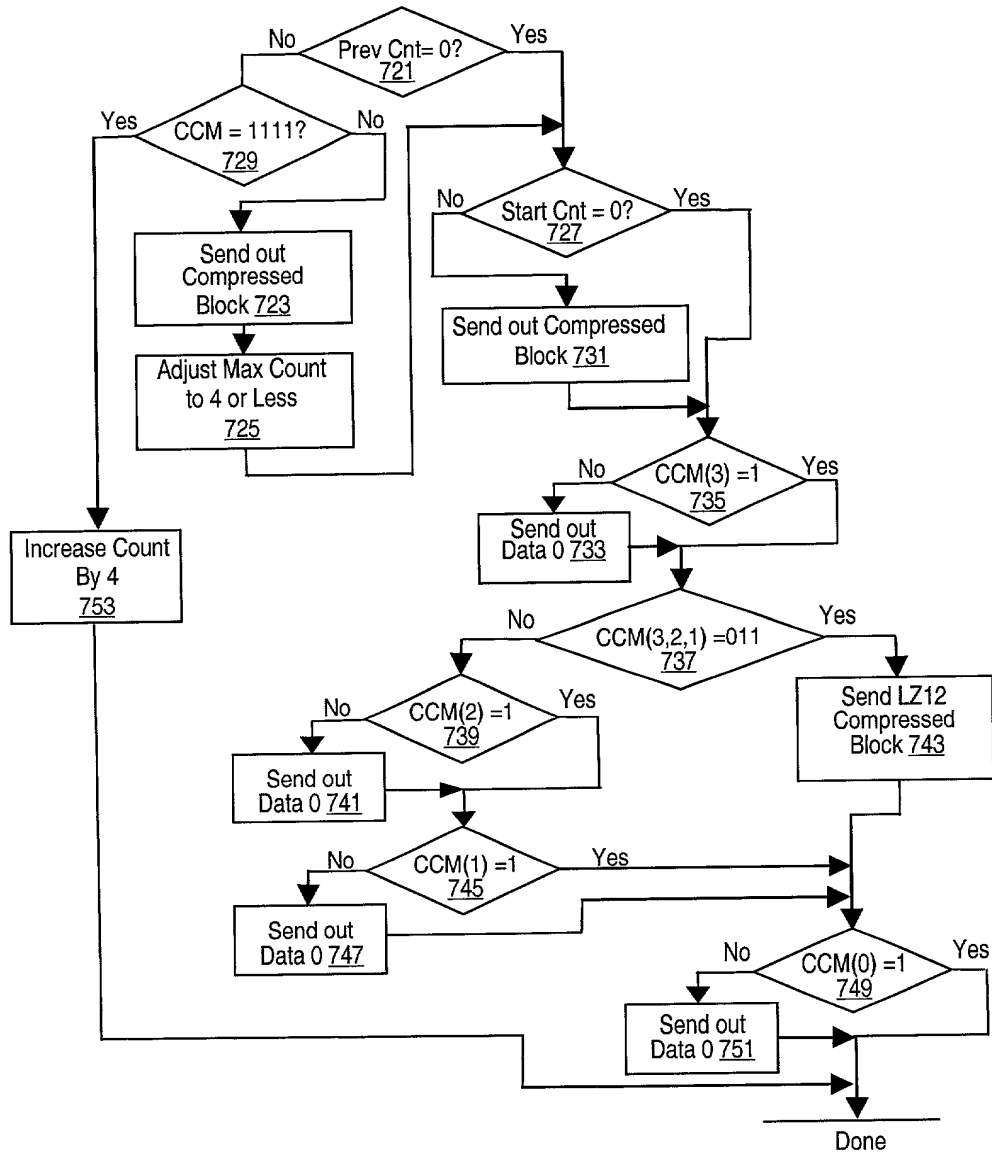


Fig. 15

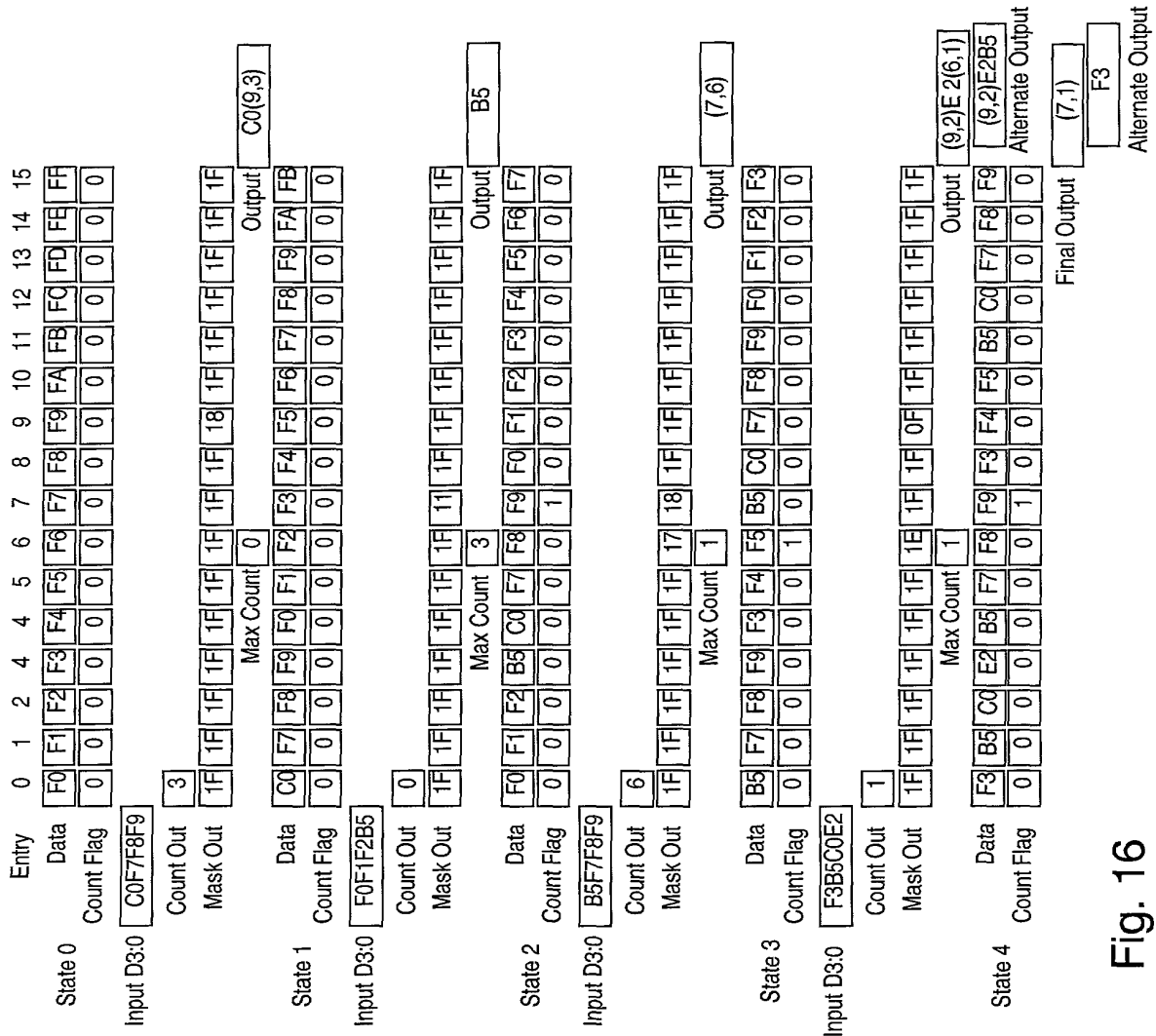


Fig. 16

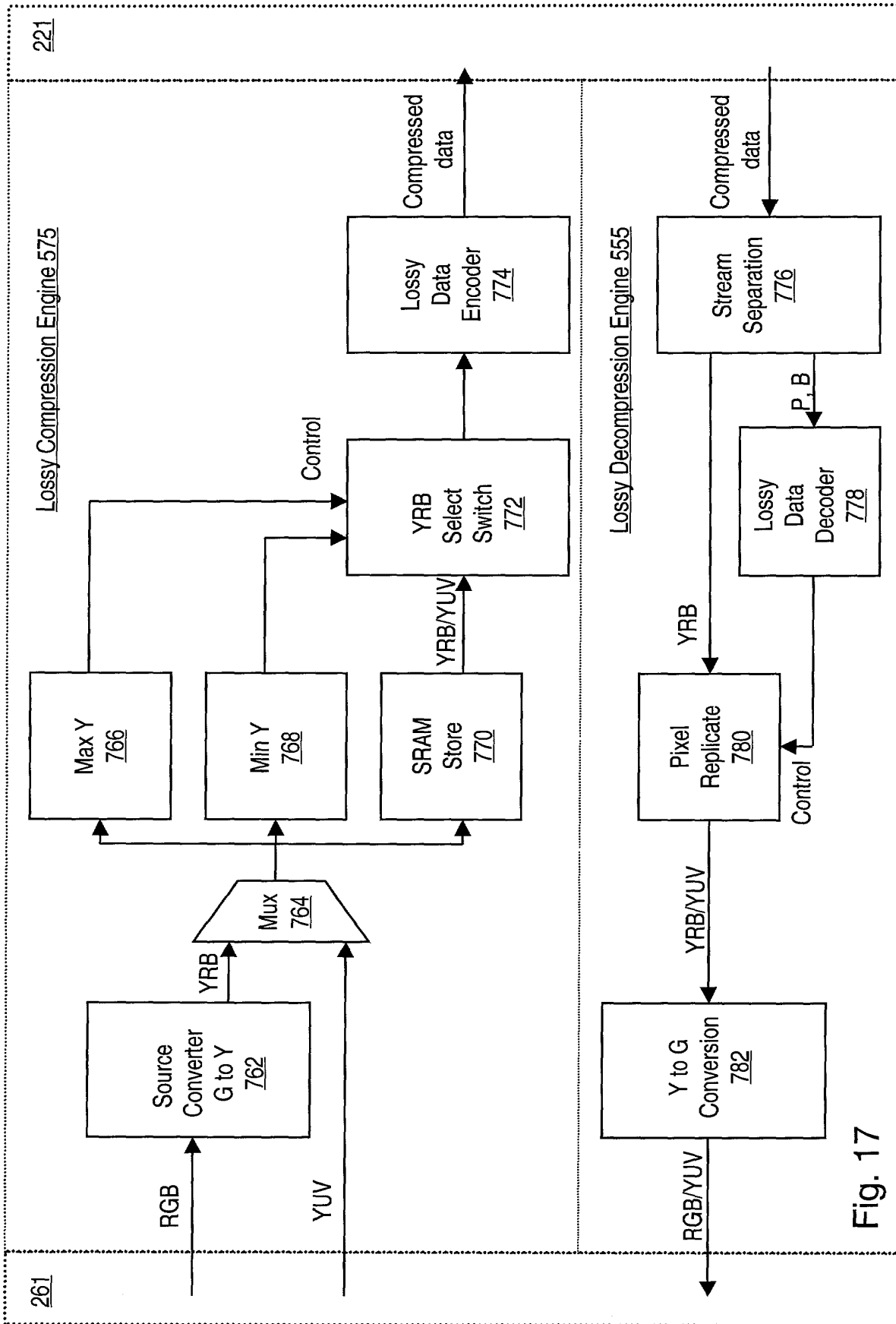


Fig. 17

Ymax = Ymin	1 color	Ymax 6 bits	Ymax 6 bits	Rmax 5 bits	Bmax 5 bits	11 2 bits	3 Bytes
Ymax != Ymin	2 colors	Ymax 6 bits	Ymin 6 bits	Rmax 5 bits	Rmin 5 bits	Bmax 5 bits	6 Bytes
Ymax != Ymin	>2 colors	Ymin 6 bits	Ymax 6 bits	Rmax 5 bits	Rmin 5 bits	Bmax 5 bits	8 Bytes

Fig. 18

Ymax = Ymin	Amax = Amin = 0x00	1 color	Ymax 6 bits	Ymax 6 bits	Rmax 5 bits	Bmax 5 bits	00 2 bits	3 Bytes
Ymax = Ymin	Amax = Amin = 0xFF	1 color	Ymax 6 bits	Ymax 6 bits	Rmax 5 bits	Bmax 5 bits	11 2 bits	3 Bytes
Ymax = Ymin	Amax = Amin != 00 or FF	1 color	Ymax 6 bits	Ymax 6 bits	Rmax 5 bits	Bmax 5 bits	01 2 bits	4/5 Bytes
Ymax = Ymin	Amax != Amin	1 color	Ymax 6 bits	Ymax 6 bits	Rmax 5 bits	Bmax 5 bits	01 2 bits	6/7 Bytes
Ymax != Ymin	Amax != Amin	2 Alphas	Ymax 6 bits	Ymax 6 bits	Rmax 5 bits	Bmax 5 bits	10 2 bits	8/9 Bytes
Ymax != Ymin	Amax != Amin	1 color	Ymax 6 bits	Ymax 6 bits	Rmax 5 bits	Bmax 5 bits	2 bits	7/8 Bytes
Ymax != Ymin	X	>2 colors	Ymax 6 bits	Ymin 6 bits	Rmax 5 bits	Rmin 5 bits	5 bits	9/10 Bytes
Ymax != Ymin	X	>2 colors	Ymin 6 bits	Ymax 6 bits	Rmax 5 bits	Rmin 5 bits	5 bits	32 bits

Fig. 19

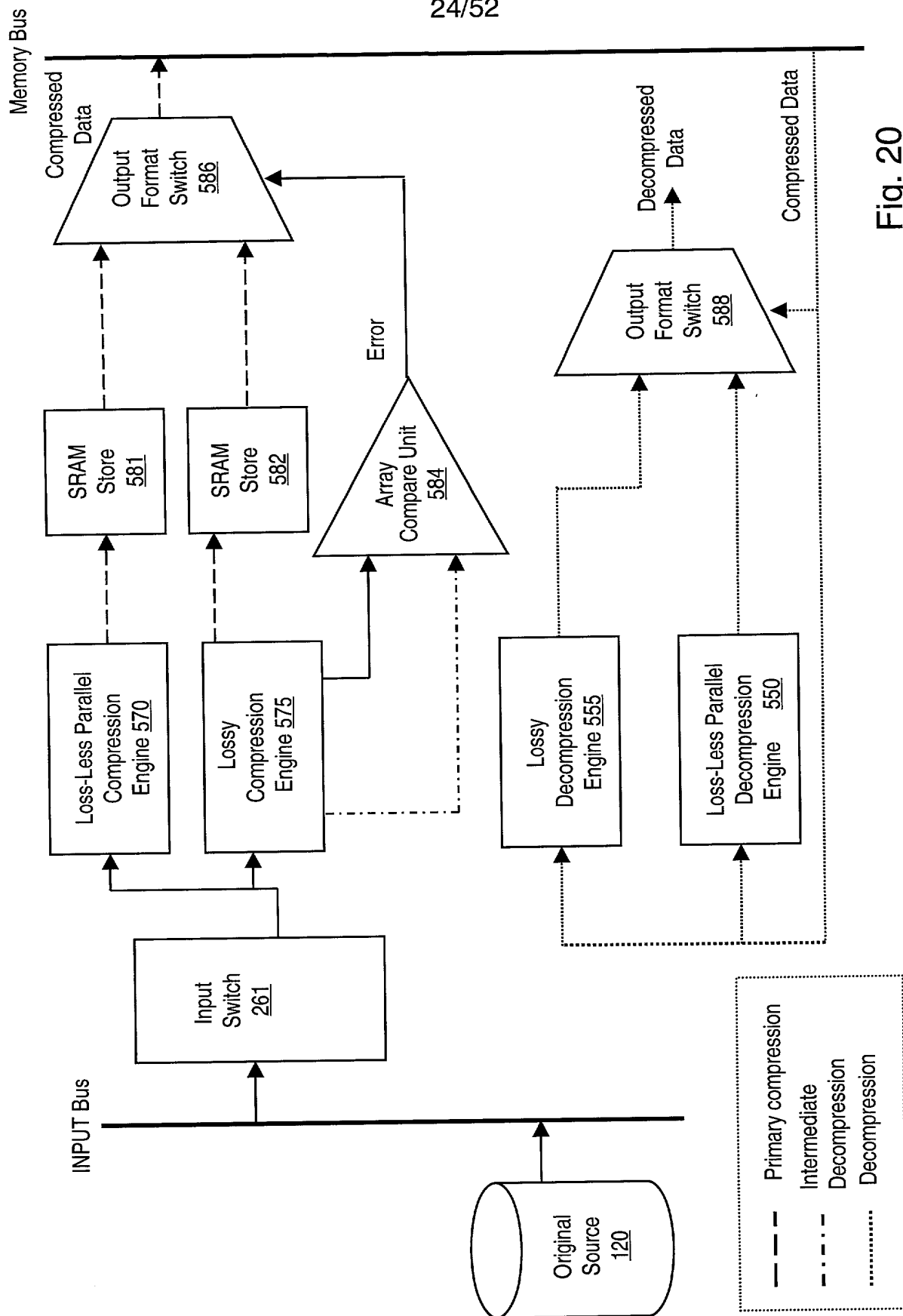


Fig. 20

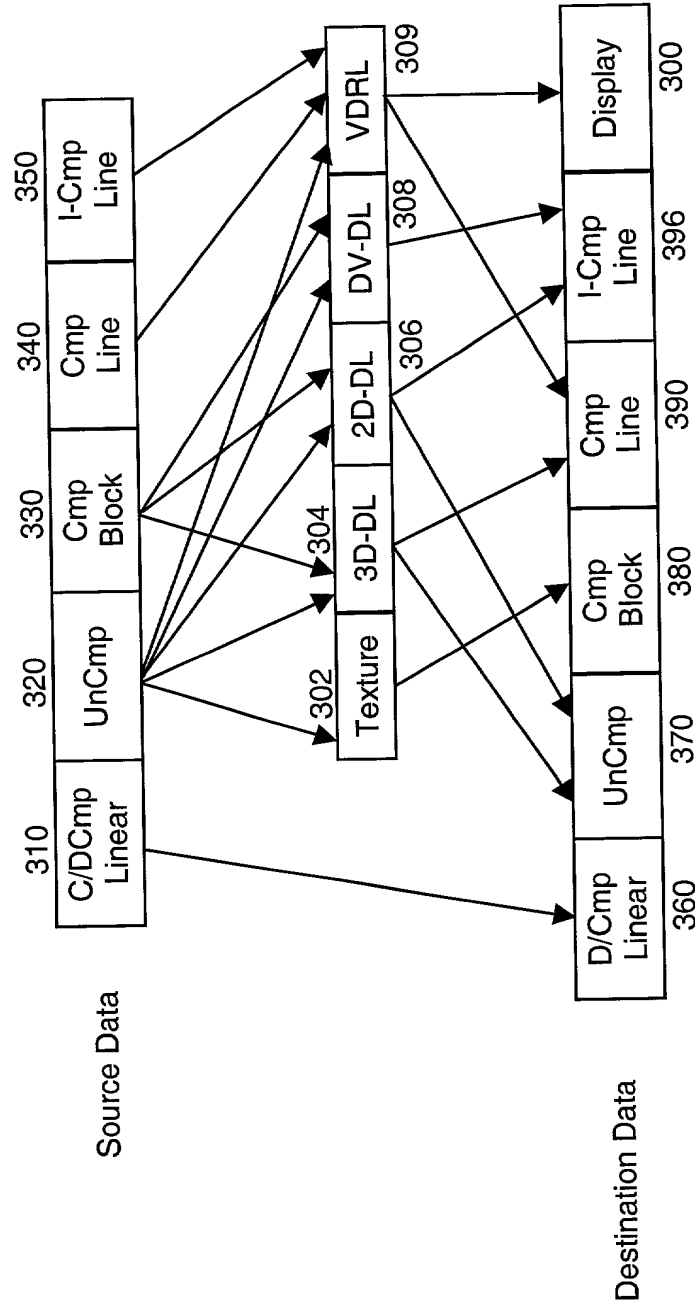


Fig. 21

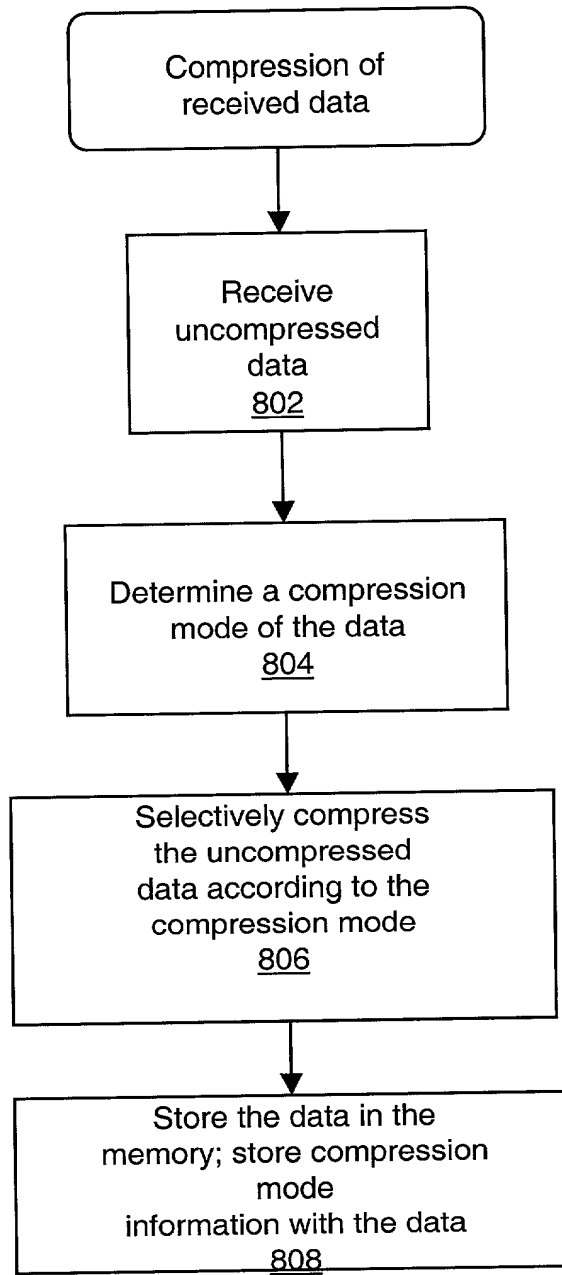


Fig. 22

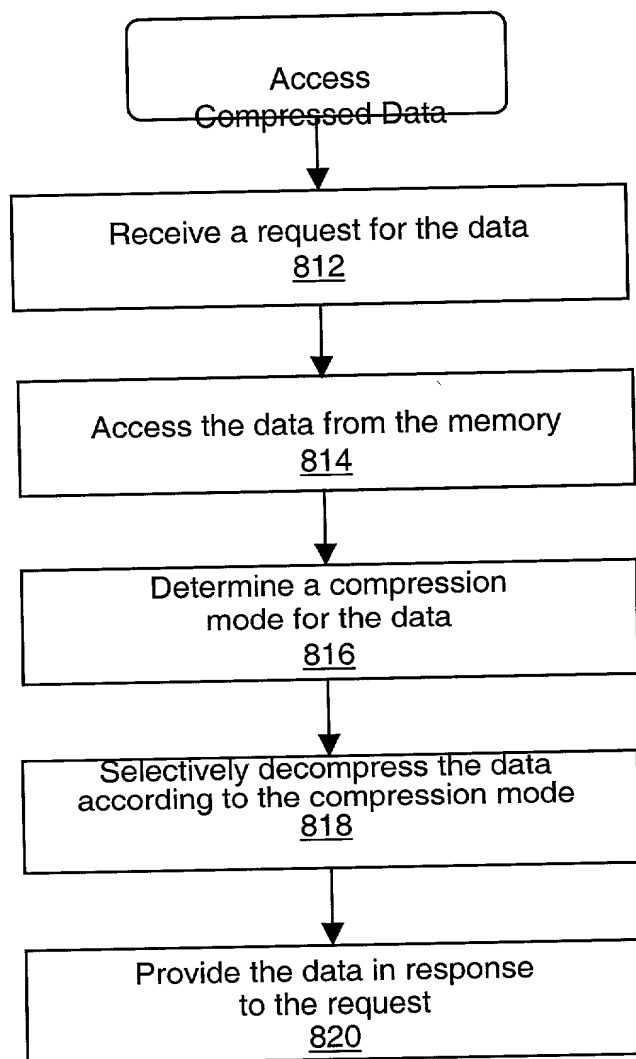


Fig. 23

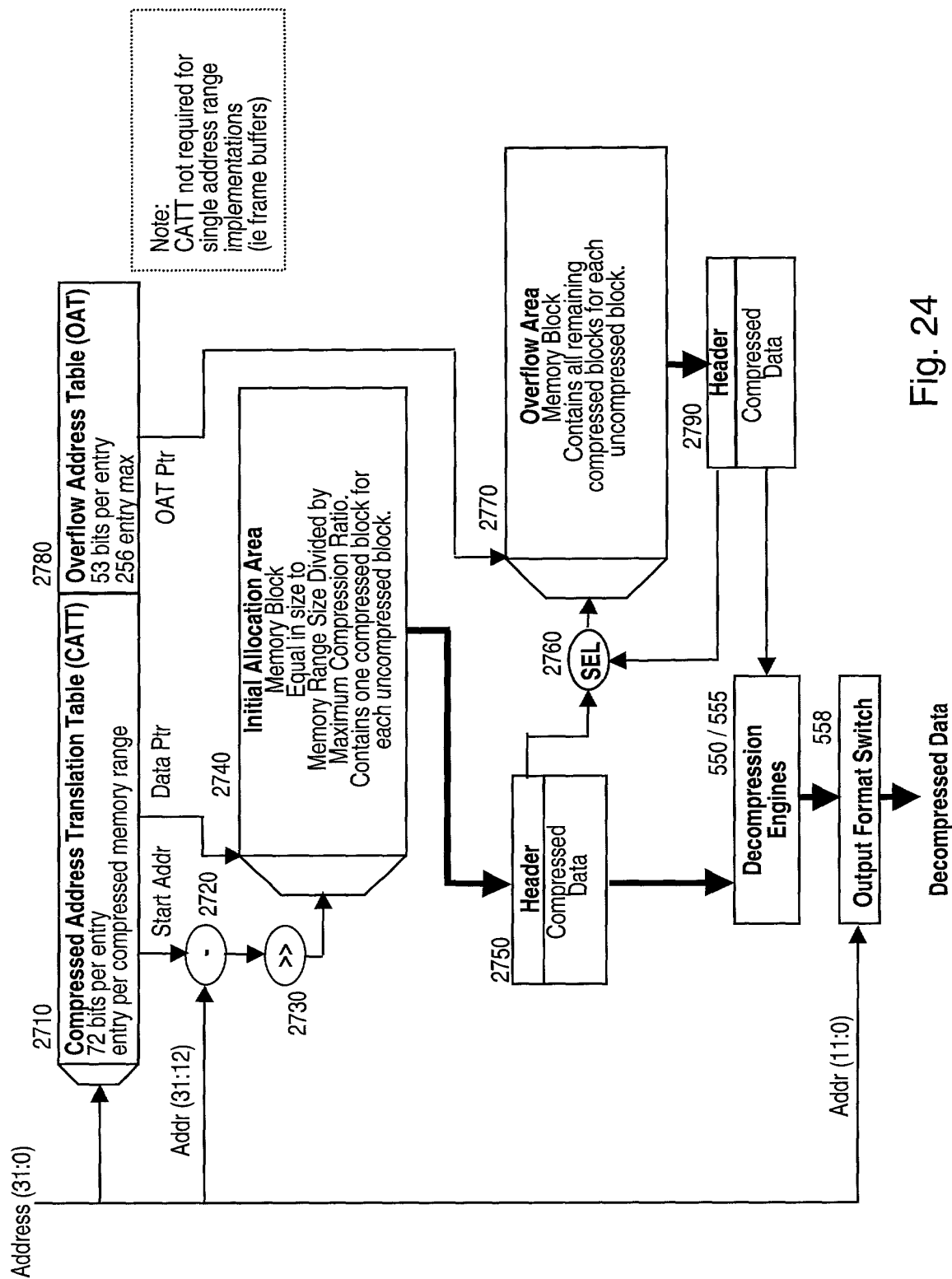


Fig. 24

Memory Allocation Fields

Compressed Address Translation Table (CATT) – 128 Entry Design Limit				
Starting Addr	Ending Addr	Type	Data Ptr	OAT Ptr
20 bits	20 bits	4 bits	20 bits	8 bits
4GB Addressability		Compressed		
4K Boundry	4K Boundry	Blk Size	4K Boundry	4K Boundry
Overflow Address Table (OAT) – 256 Entry Max				
Overflow Ptr	Next Block Ptr	Next OAT Ptr		Next OAT Valid
20 bits	24 bits	8 bits		1 bit
4 GB Addressability		Points to next entry		
4K Boundry		in this table		
Initial Header Description				
Value	# of bits	Meaning		
0	1	Last Block/Unused		
10 A (20 bits)	22	The next block is at offset A in the Overflow Area		
11 1A(8+20 bits)	30	The next block is at offset A in the Overflow Area of OAT entry 1		
Overflow Header Description				
Value	# of bits	Meaning		
00	2	Last Block/Unused		
01	2	The next block follows physically after this one		
10A (8 bits)	10	The next block is A blocks before this one (or after?)		
110A (20 bits)	23	The next block is at offset A in the Overflow Area		
111 1A (8+20 bits)	31	The next block is at offset A in the Overflow Area of OAT entry 1		

Fig. 25

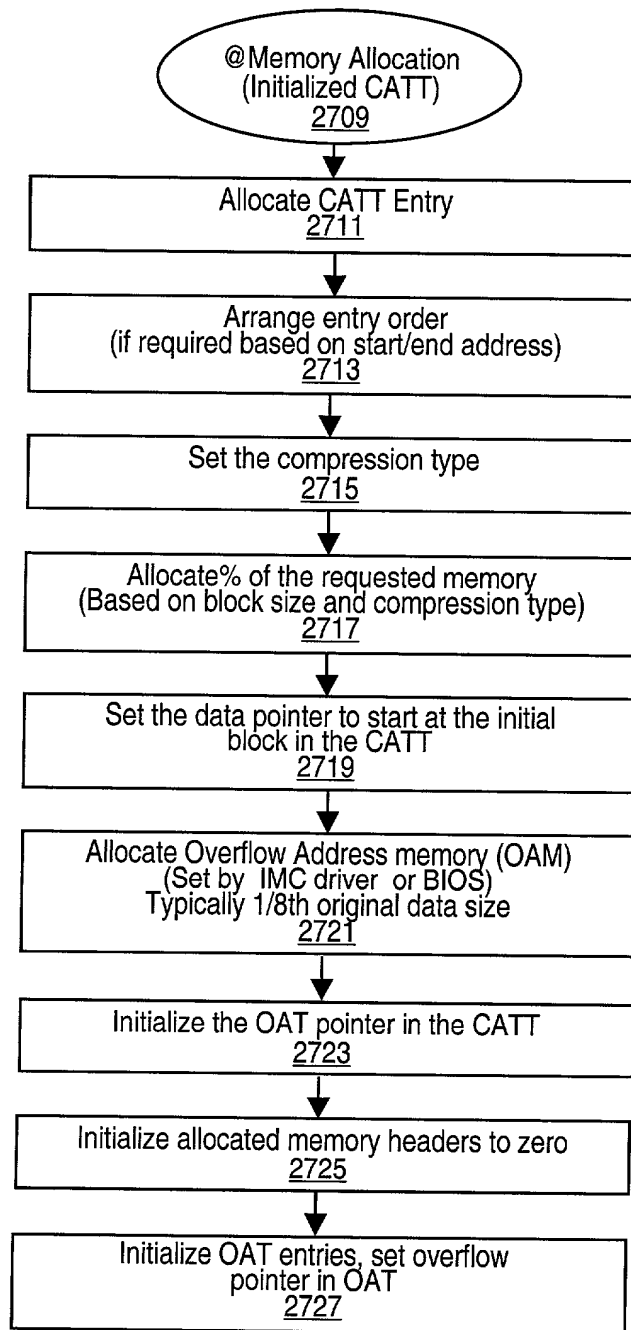


Fig. 26

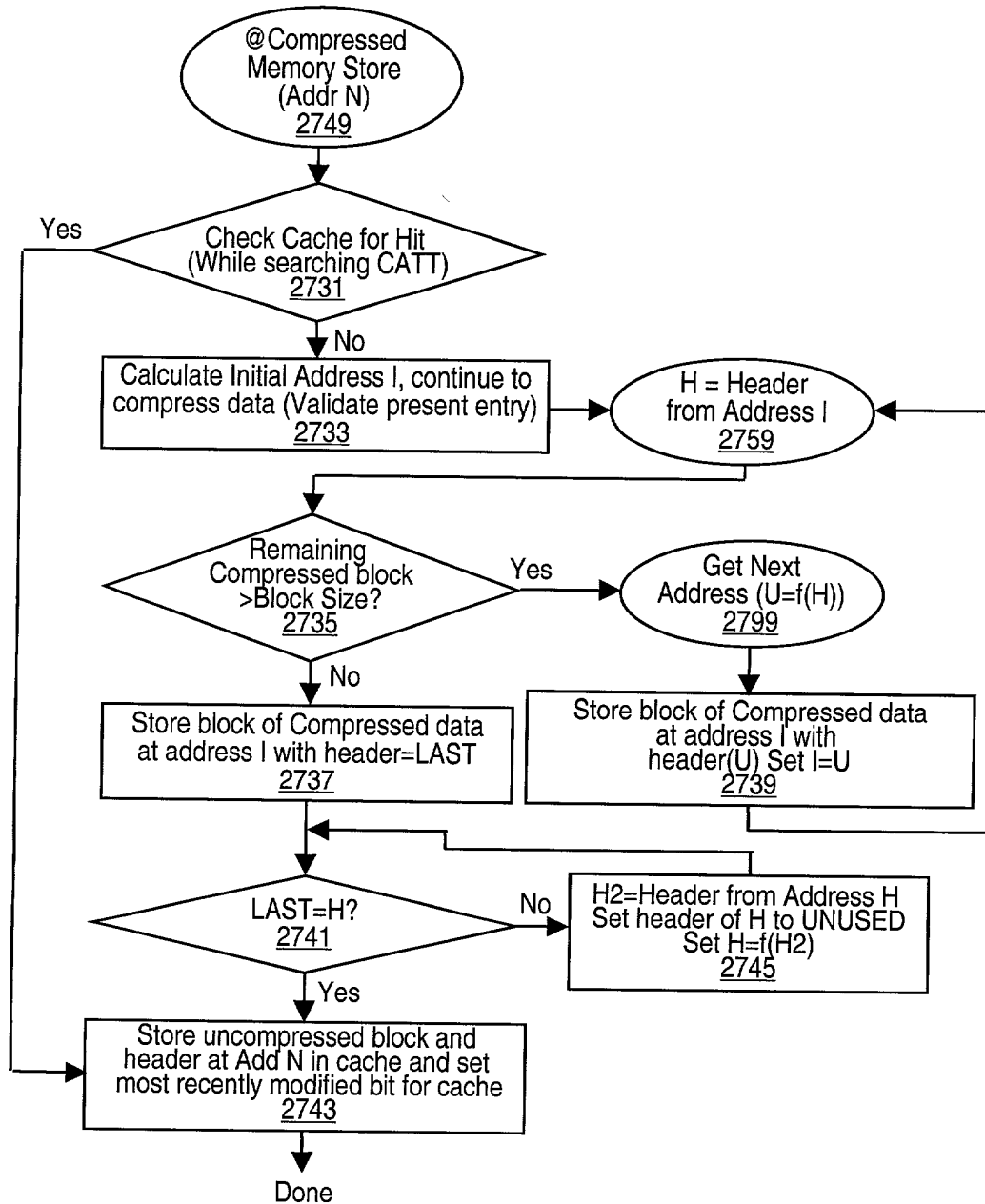


Fig. 27

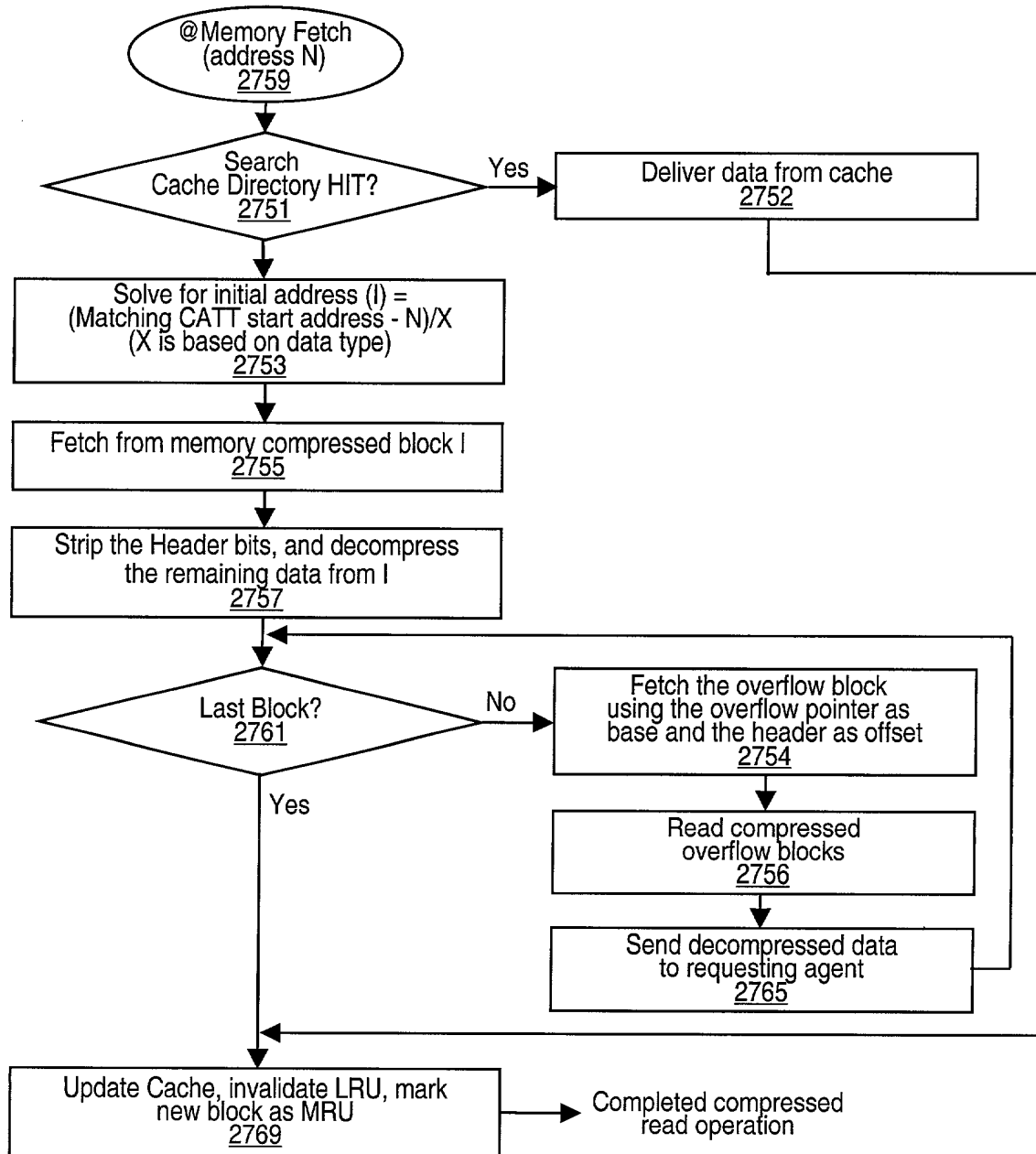


Fig. 28

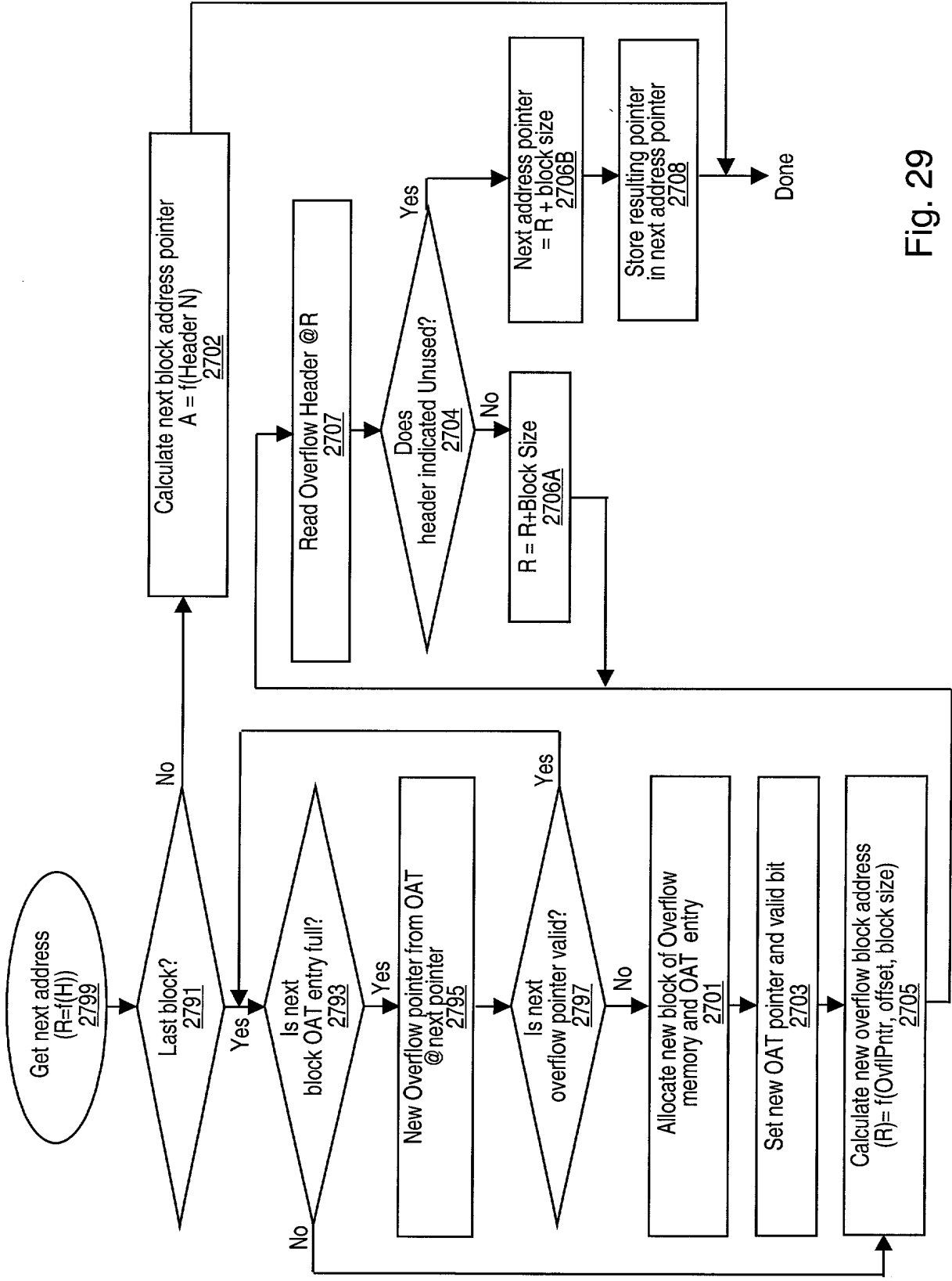


Fig. 29

Uncomp Block Bytes	Type	Initial Block Size Bytes	Overflow Block Size Bytes	Max Comp Ratio (X:1)	Initial Allocation	Header w/o OF	Header w/ OF Non-Frag	Header w/ OF Fragmented
4096	8	256	64	16	6%	0.0%	0.4%	4.1%
2048	7	128	64	16	6%	0.1%	0.5%	4.2%
1024	6	64	64	16	6%	0.2%	0.6%	4.3%
512	5	64	64	8	13%	0.2%	0.9%	4.3%
256	4	64	64	4	25%	0.2%	1.4%	4.3%
128	3	32	32	4	25%	0.4%	2.8%	8.8%
64	2	32	16	2	50%	0.4%	5.1%	13.6%
32	1	32	8	1	100%	0.4%	8.9%	11.5%

Fig. 30

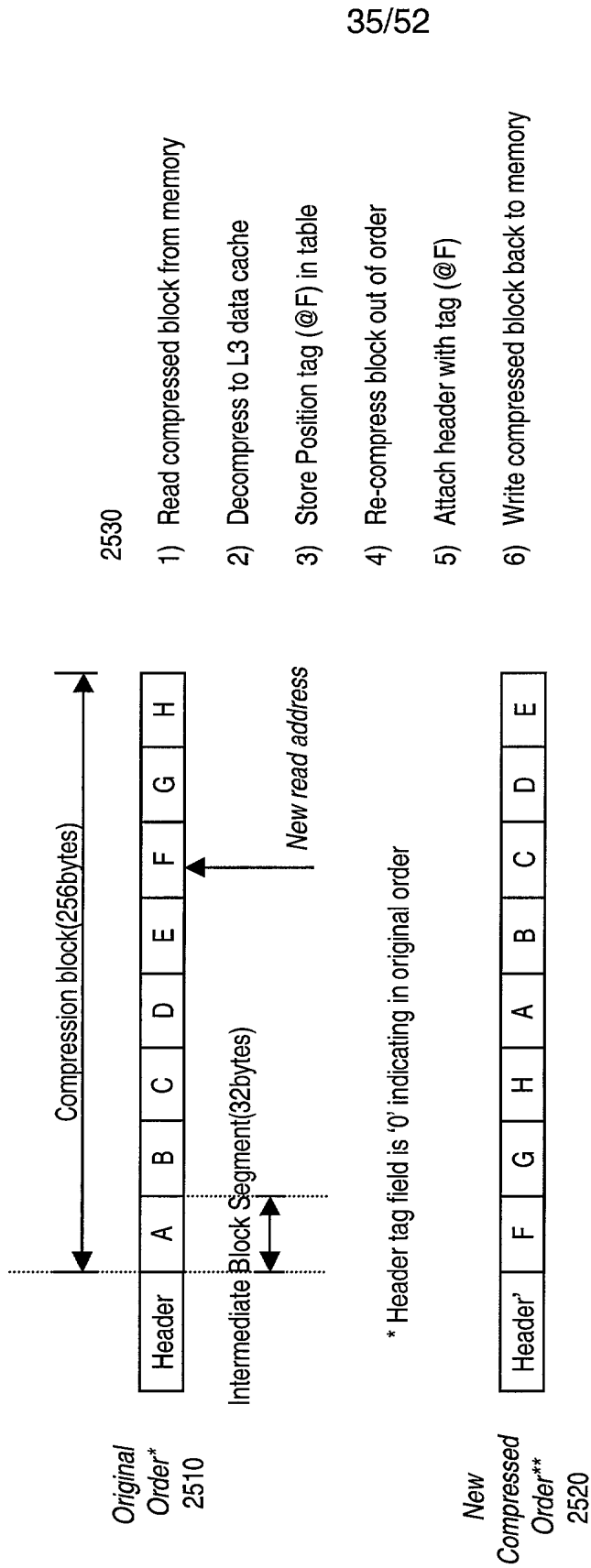


Fig. 31

Bytes Compressed	Flag	Index	Count	Data	Bits Used
0	0	-	-	8b	9
1	10	6b	-	-	8
2	1100	6b	-	-	10
3	1101	6b	-	-	10
4	1110	6b	-	-	10
5	1111000	6b	-	-	13
6	1111001	6b	-	-	13
7	1111010	6b	-	-	13
8	1111011	6b	-	-	13
9	1111100	6b	-	-	13
10	1111101	6b	-	-	13
11	1111110	6b	-	-	13
>11	1111111	6b	12b	-	25

Fig. 32

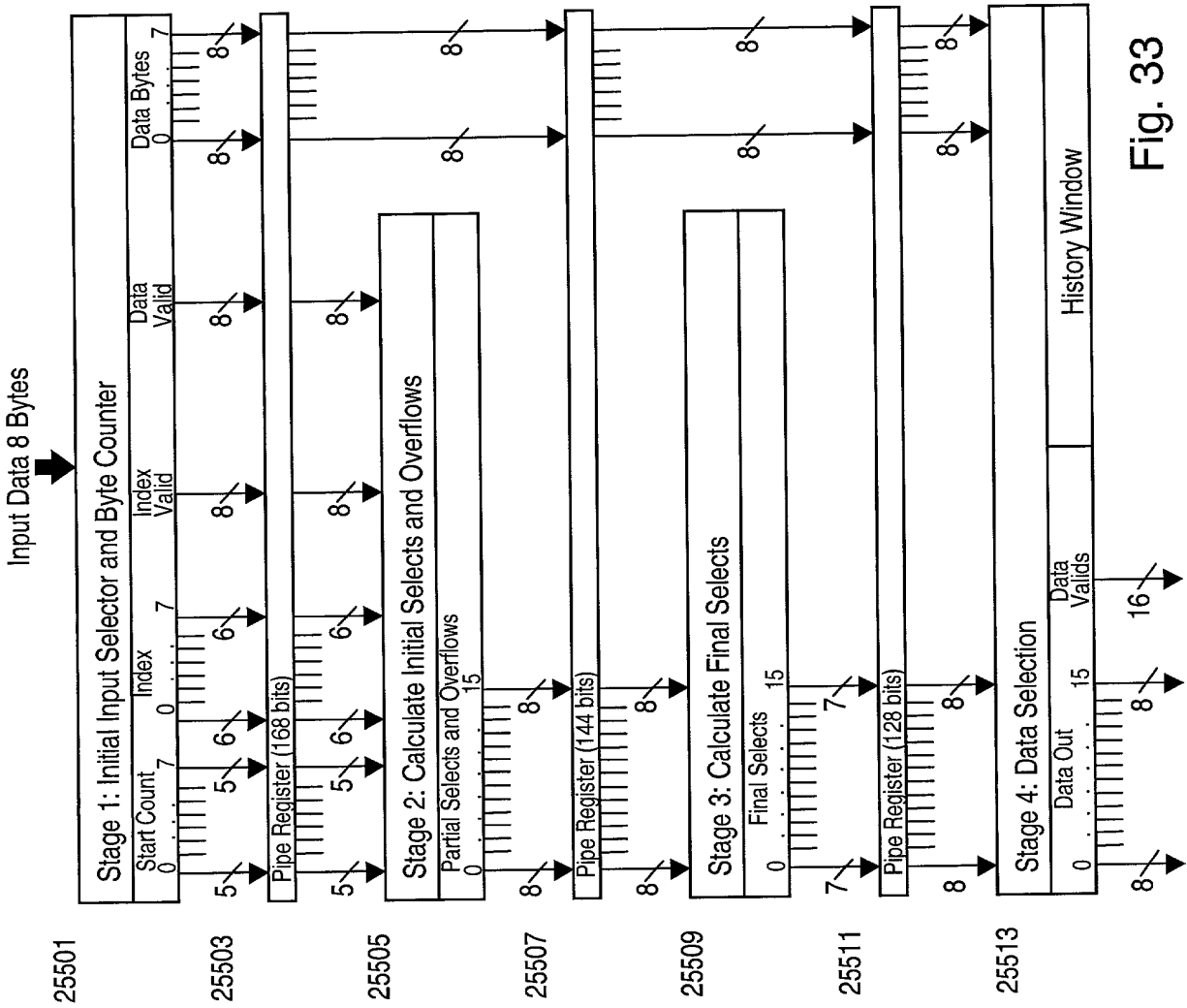


Fig. 33

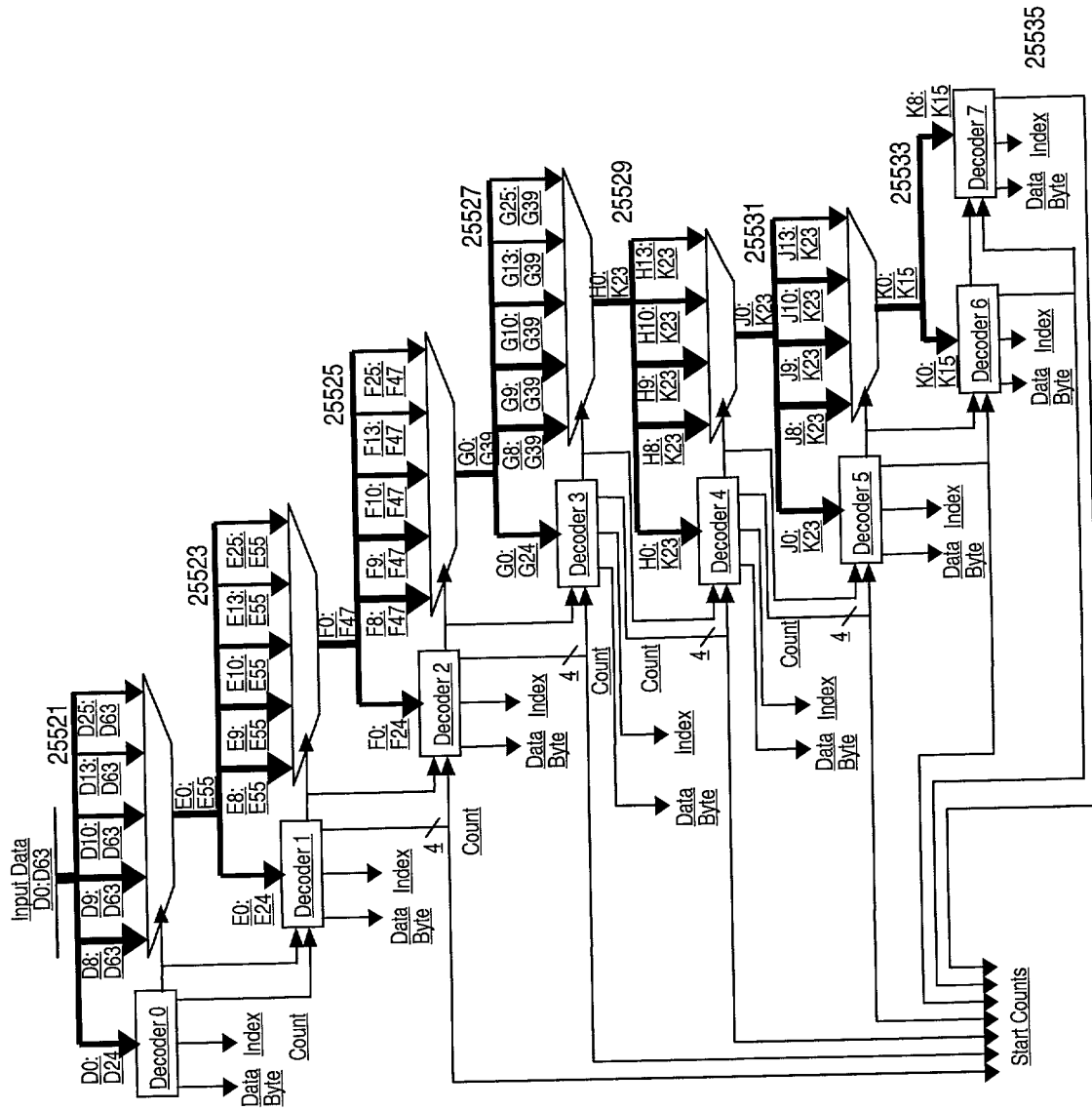


Fig. 34

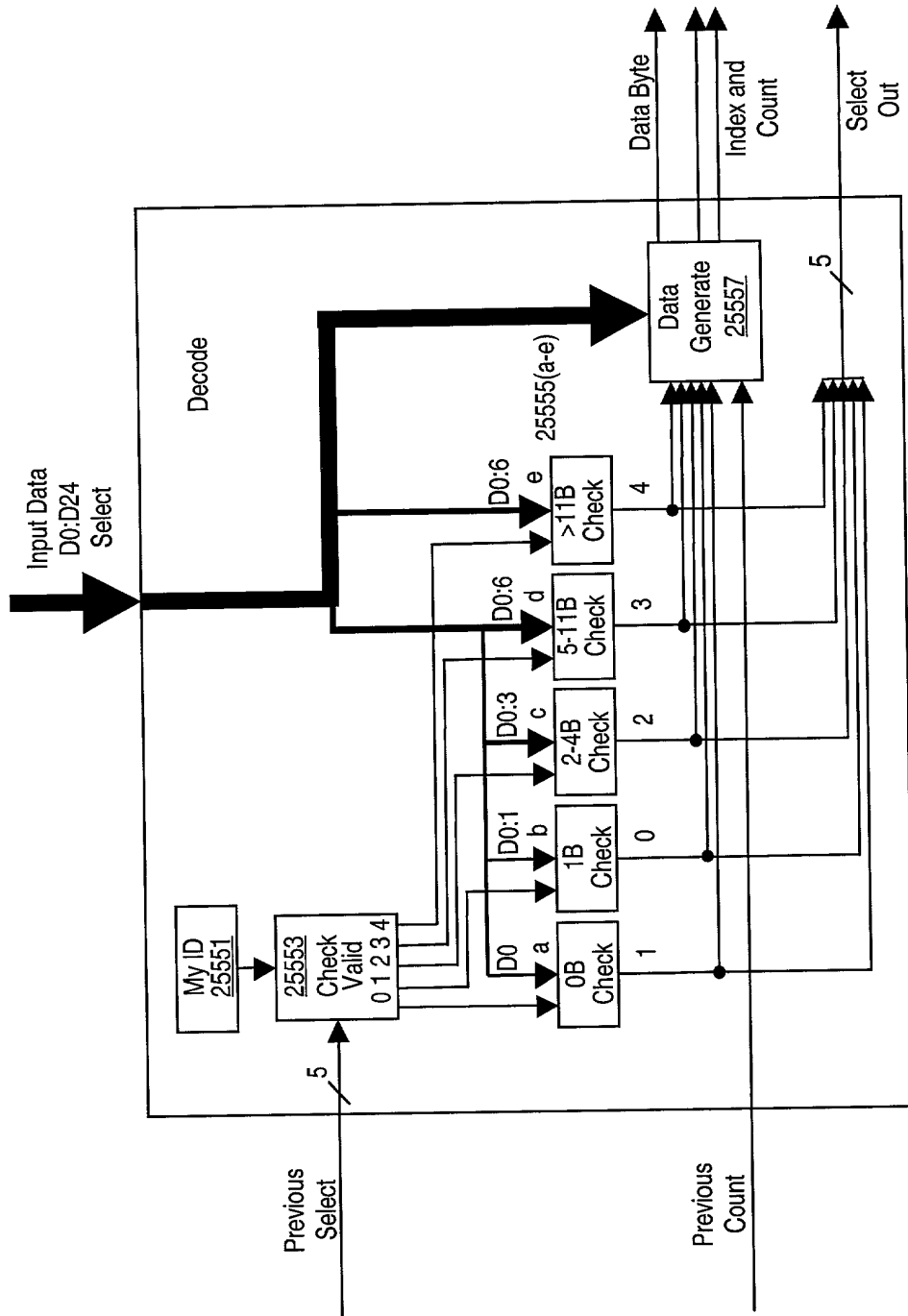


Fig. 35

Previous Select	10	08	04	02	01	00
My ID=01	1F	1F	1F	1F	1F	00
My ID=02	1F	1F	1F	1F	1F	00
My ID=04	1F	1F	1F	1F	1F	00
My ID=08	1F	1F	1F	1F	1E	00
My ID=10	1F	1F	1F	1F	1E	00
My ID=20	1E	1E	1E	1E	00	00
My ID=40	1E	1E	1E	1C	00	00
My ID=80	08	00	00	00	00	00

Fig. 36a

Select	10	08	04	02	01	00
Data Byte	X	D1:D8	X	X	X	X
Index	D2:D7	X	D4:D9	D7:D12	D7:D12	X
Count	PC+1	PC+1	D2:D3+PC+2	D4:D6+PC+5	D13:D24+PC	X

Fig. 36b

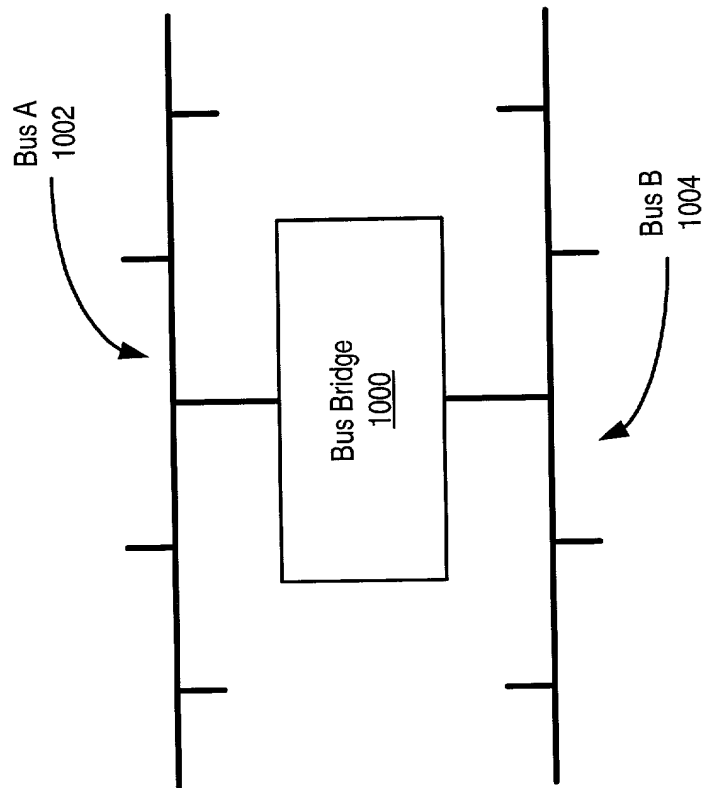


FIG. 37
Bus Bridge

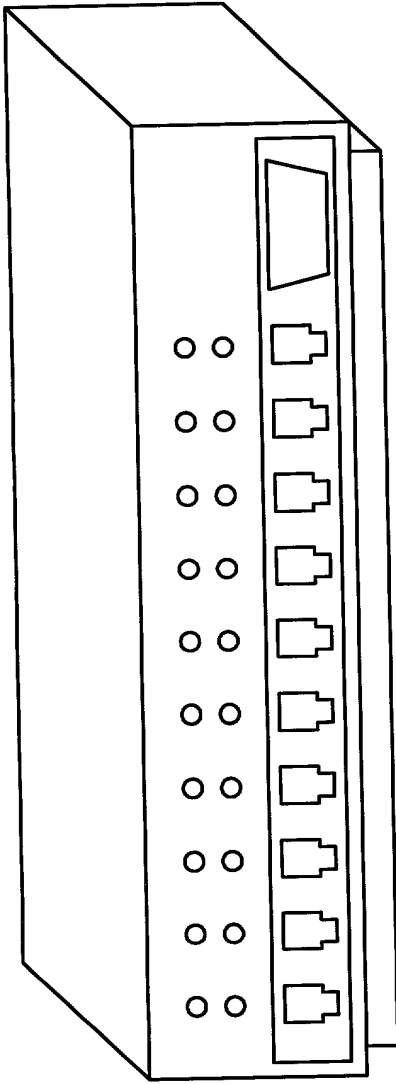


FIG. 38
Network Hub

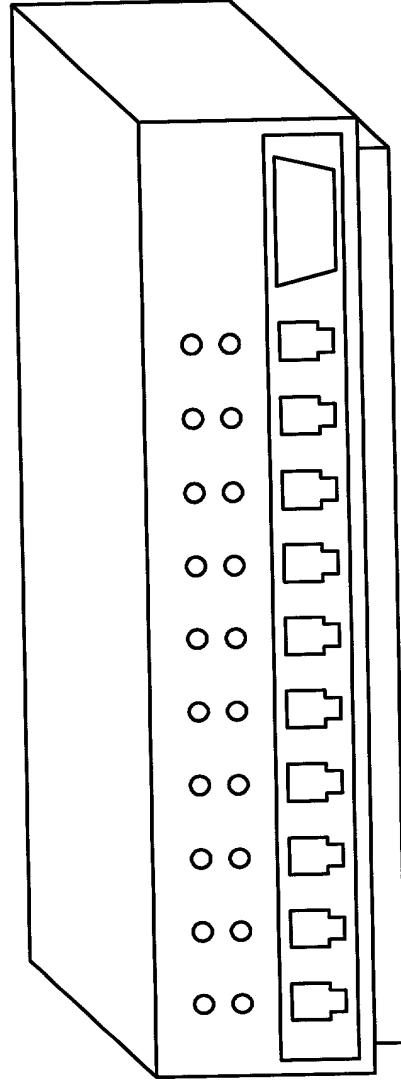


FIG. 39
Network Switch

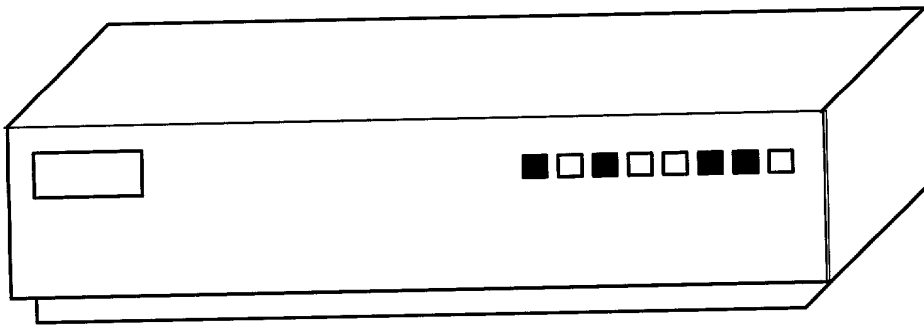


FIG. 40
Network Bridge

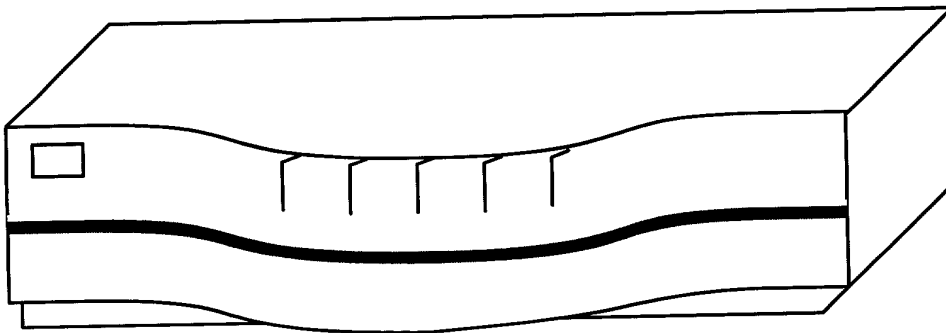


FIG. 41
Network Router

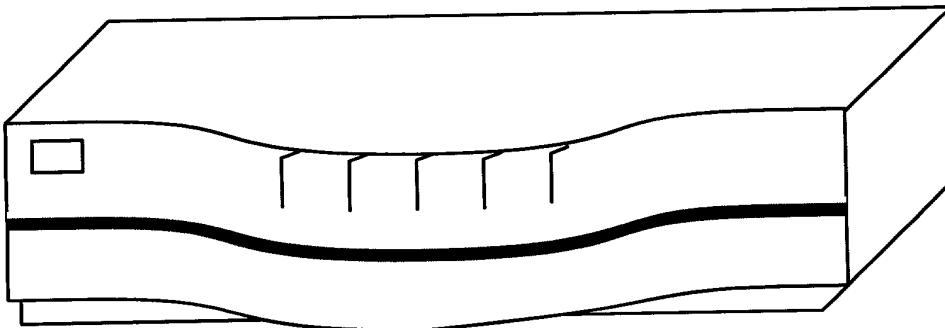


FIG. 42
Network Brouter

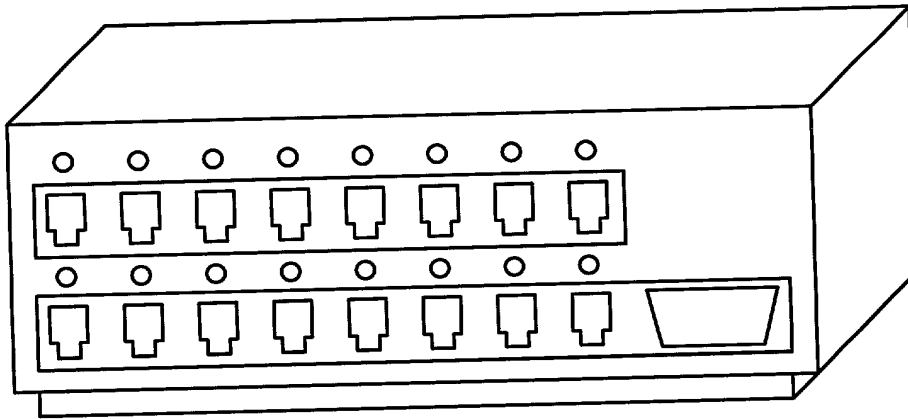


FIG. 43A
Multiplexer

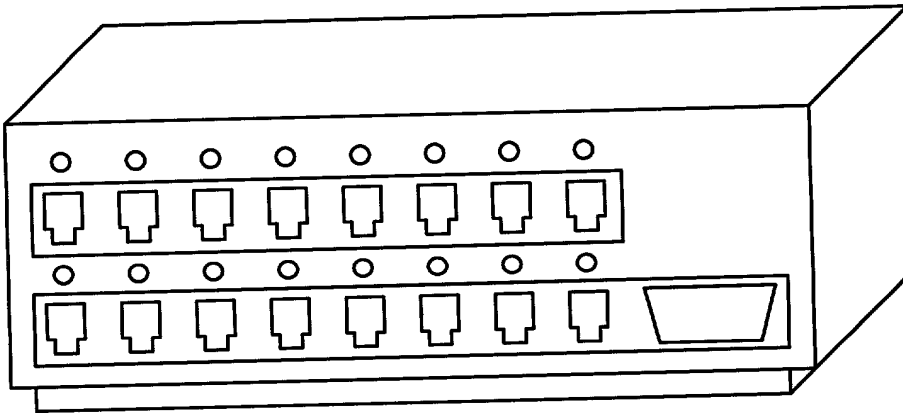


FIG. 43B
Demultiplexer

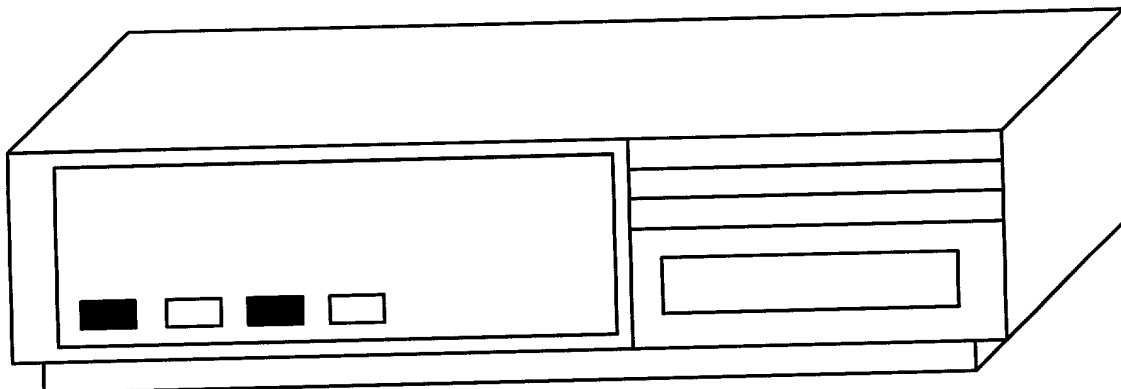


FIG. 44
Terminal Server

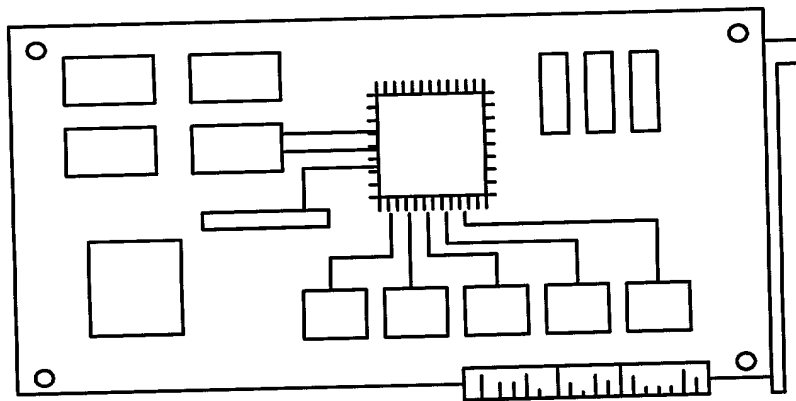


FIG. 45
Network Interface Card

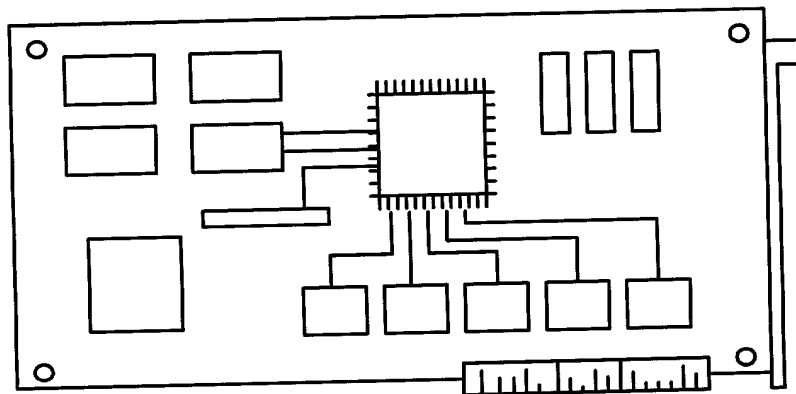


FIG. 46
ISDN adapter

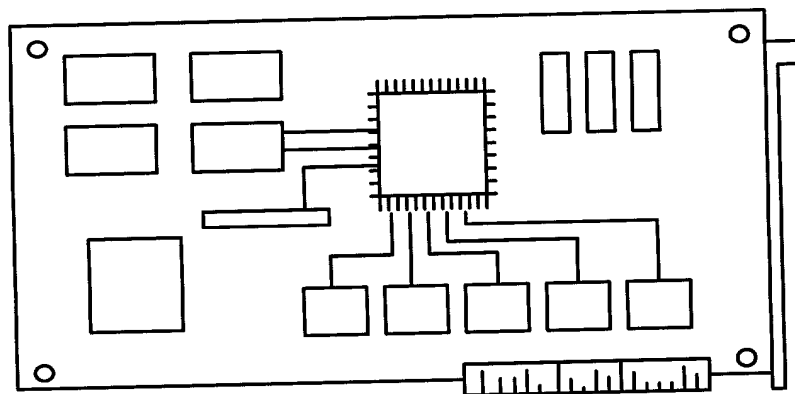


FIG. 47
ATM adapter

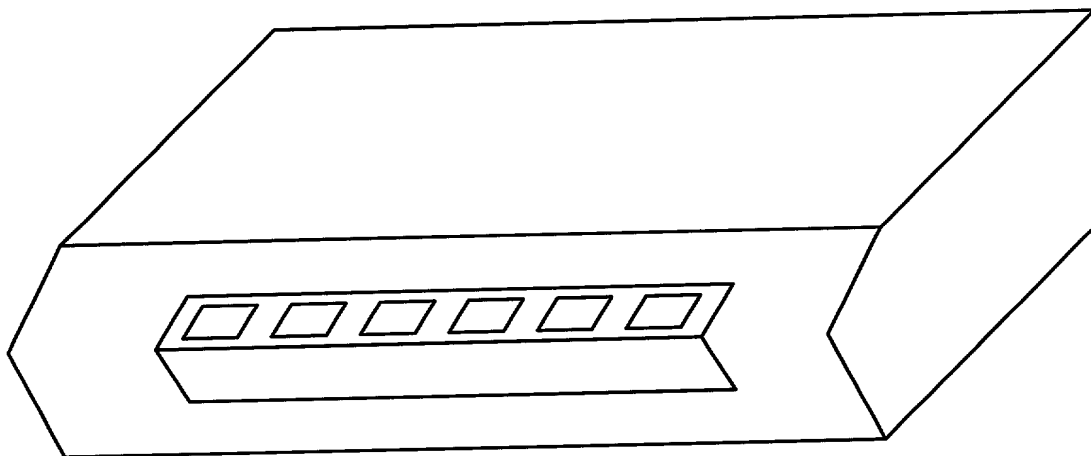


FIG. 48
Modem

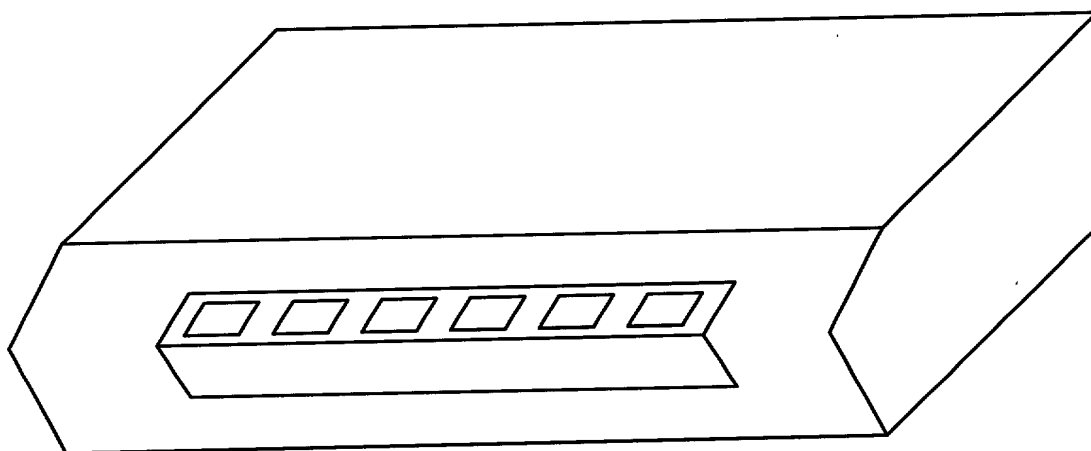


FIG. 49
Cable modem

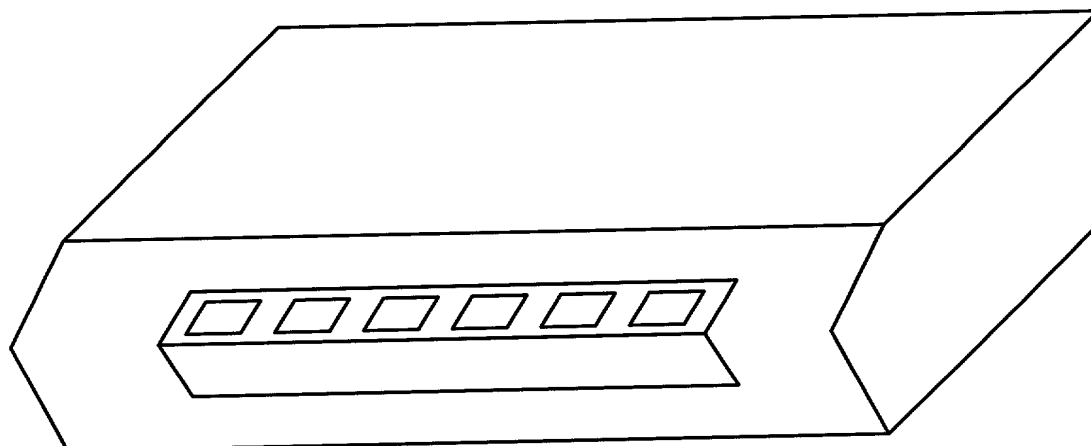


FIG. 50
DSL adapter

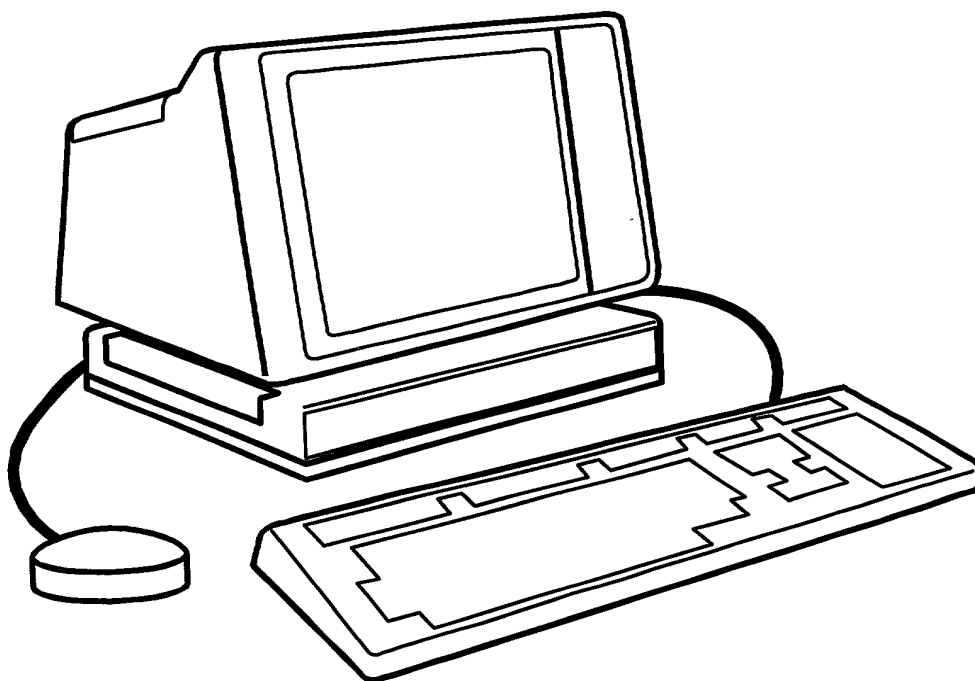


FIG. 52
Network appliance

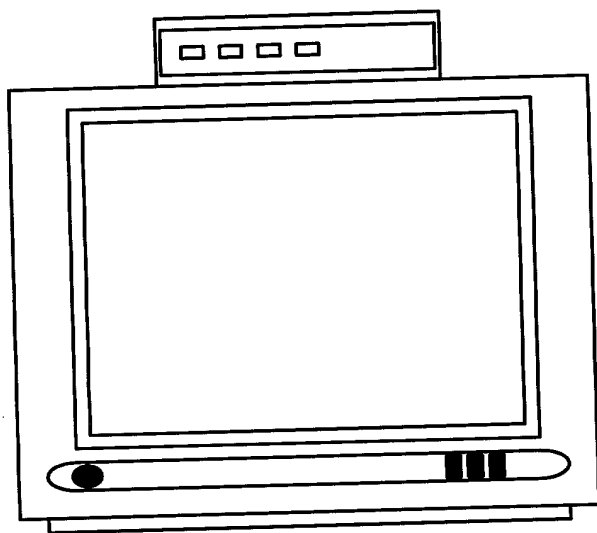


FIG. 52
Television set with set top box

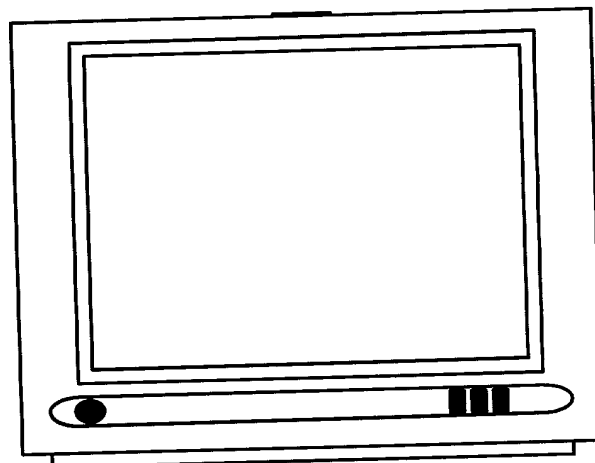


FIG. 53
HDTV set

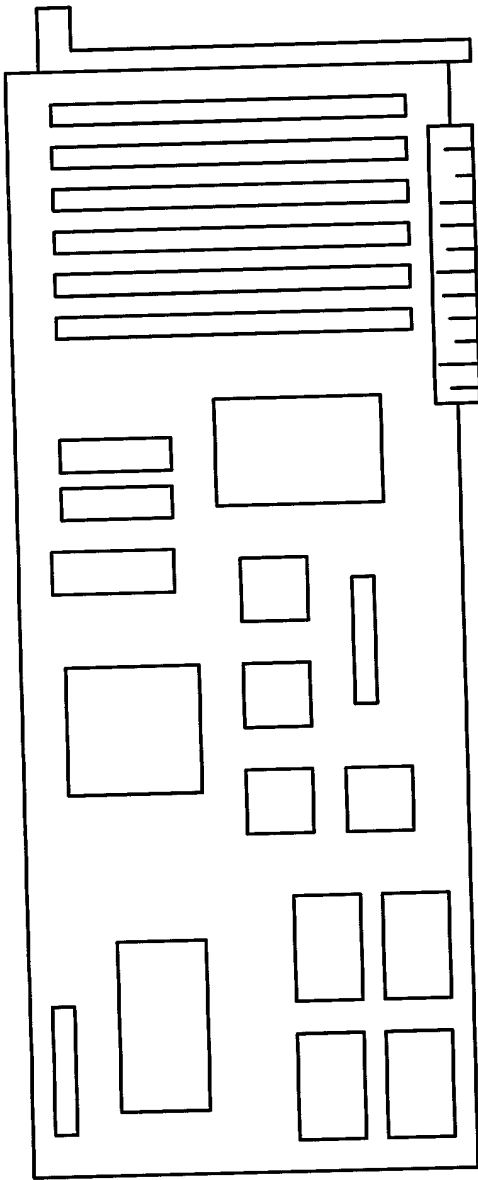


FIG. 54A
Digital-to-Analog Card (DAC)

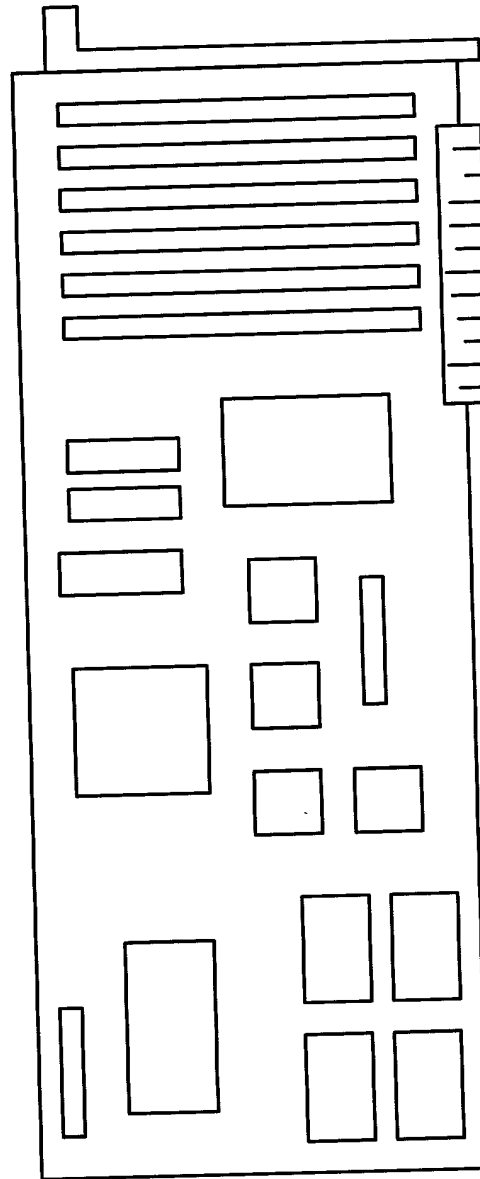


FIG. 54B
Analog-to-Digital Card (ADC)

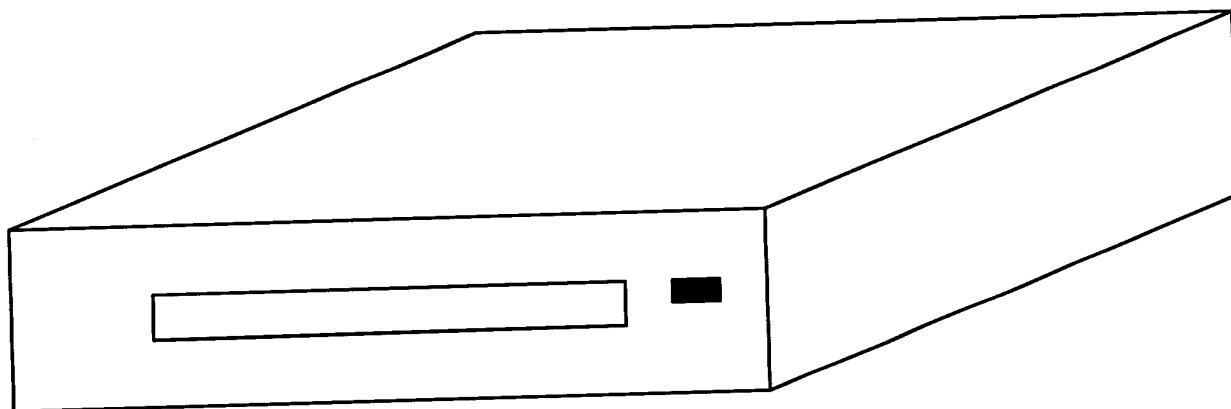


FIG. 55A
Compact Disk (CD) Reader Device

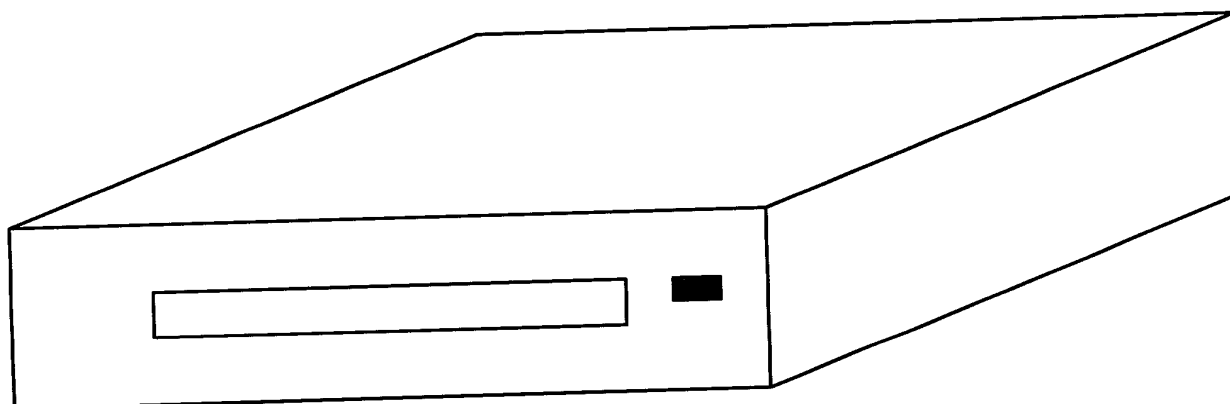


FIG. 55B
CD-R Device

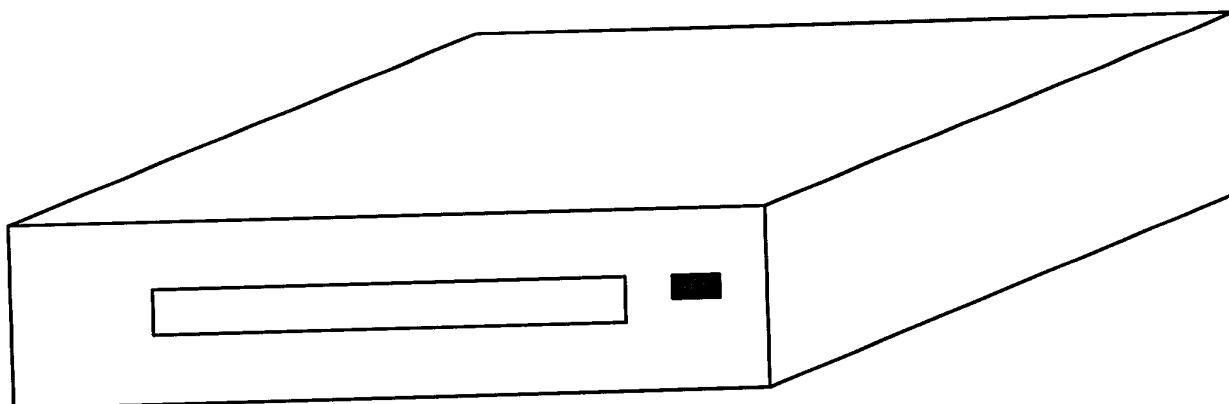


FIG. 55C
CD-RW Device

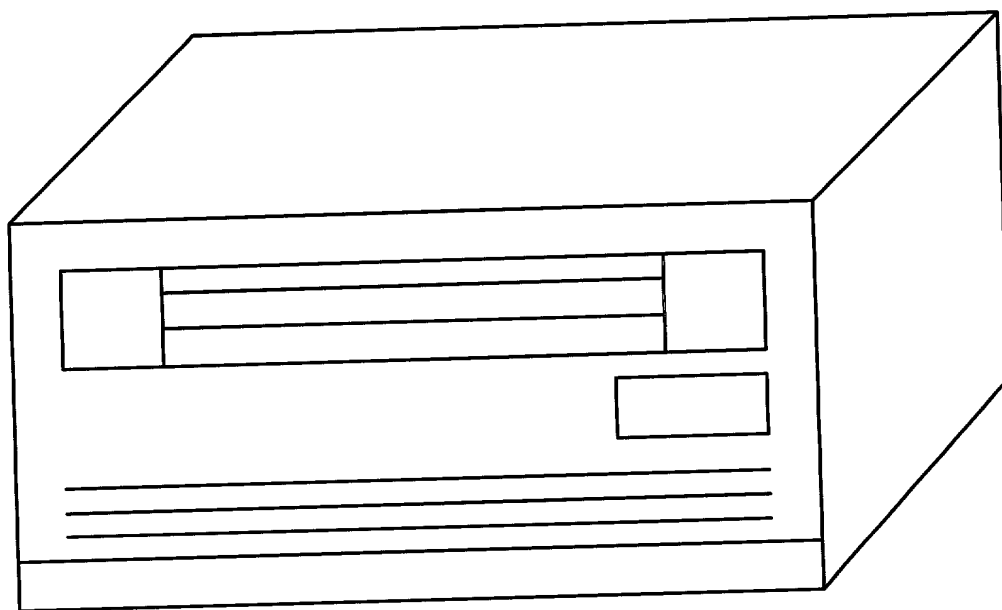


FIG. 56
Optical Data Recording Device

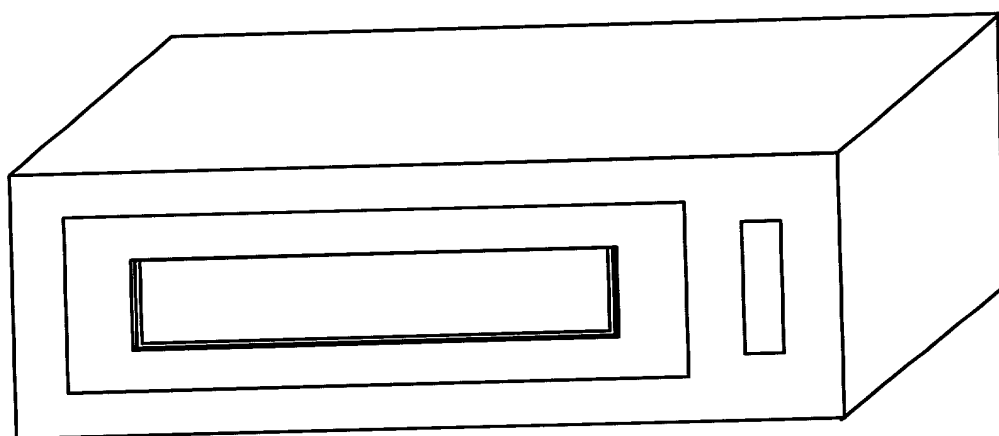


FIG. 57
Digital Audio Recording Device

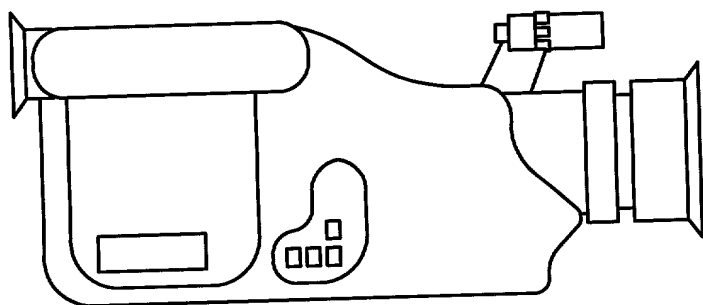


FIG. 58
Digital Camera

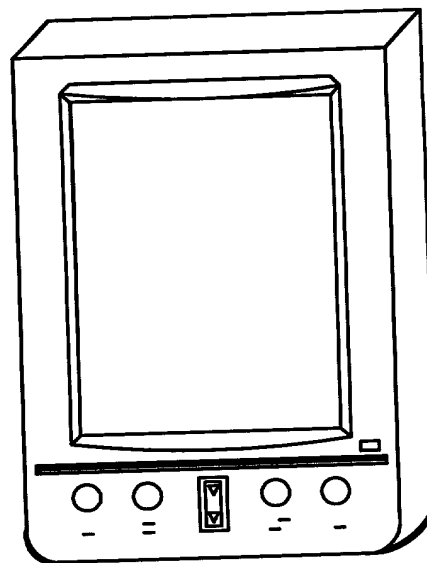


FIG. 59
PDA

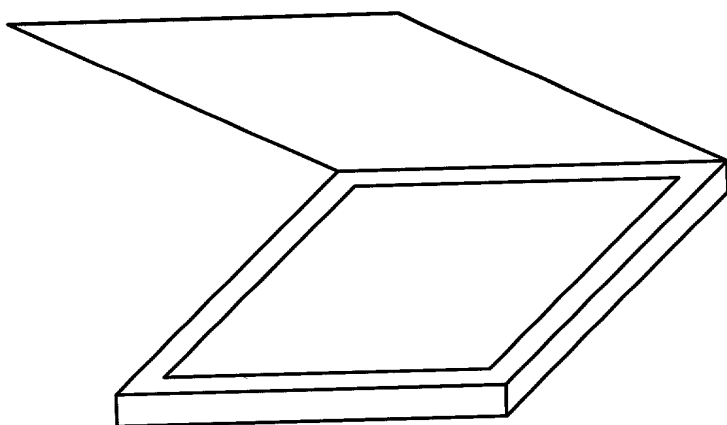


FIG. 60
Scanner

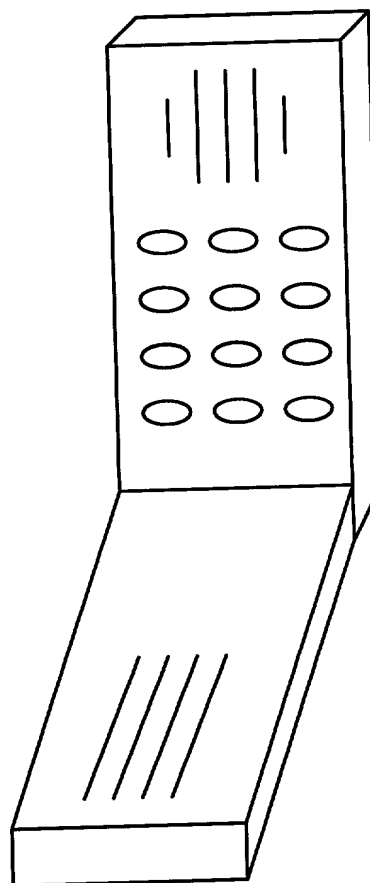


FIG. 61
Cellular Telephone

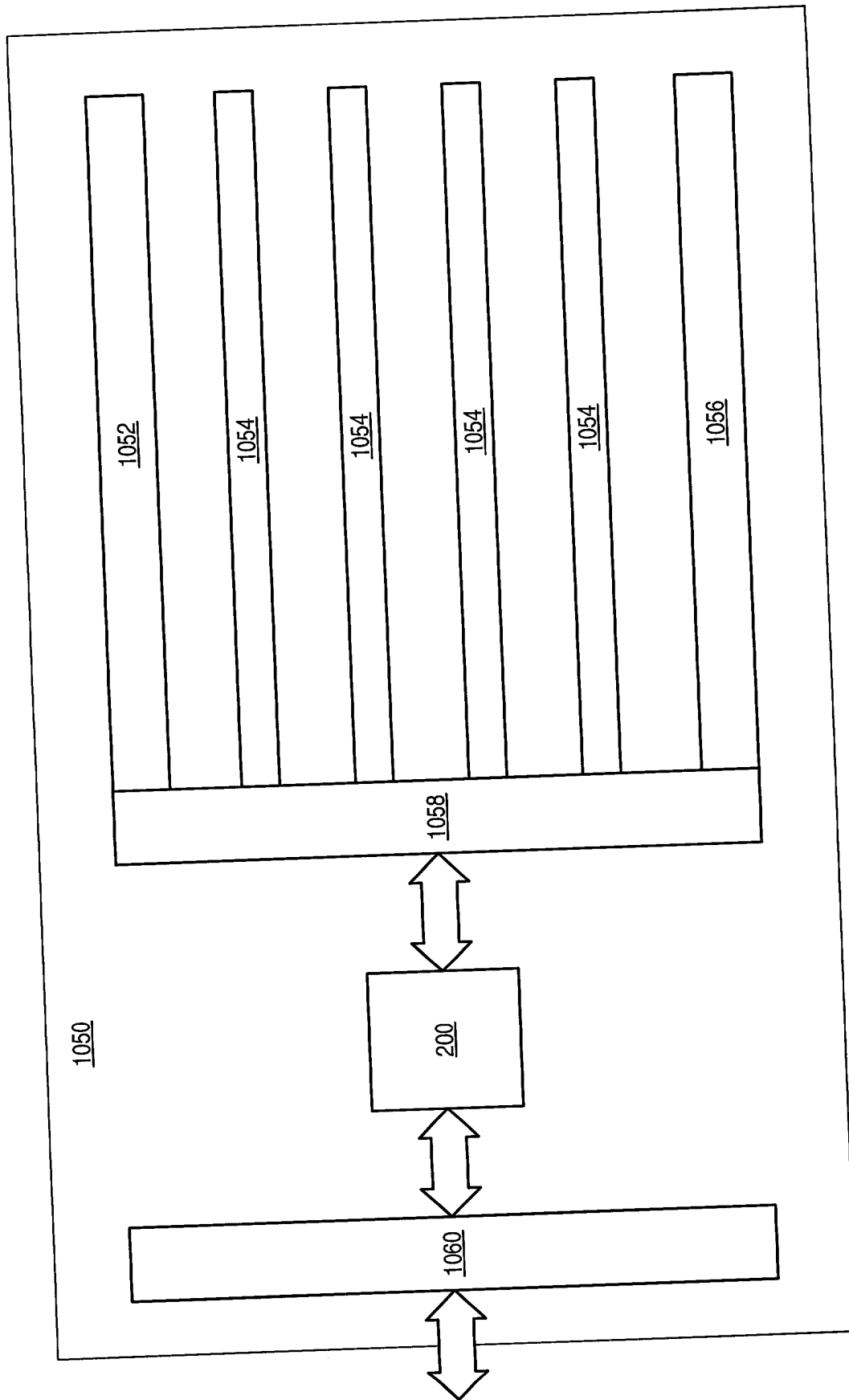


FIG. 62
Solid State Storage Device